Supreme Court, U.S.
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No. _____

IN THE
Supreme Court of the United States

COUNTY OF ROCKLAND, NEW YORK, *et al.*,

Petitioners,

v.

FEDERAL AVIATION ADMINISTRATION, *et al.*,

Respondents.

On Petition for Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

PETITION FOR WRIT OF CERTIORARI

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County of Delaware, Pennsylvania;
The Honorable Andrew J. Reilly;
The Honorable Linda A. Cartisano;
The Honorable Mary Alice Brennan;
(Additional Parties Continued Inside)

The Honorable Michael V. Puppio;
The Honorable John J. Whelan;
Friends of the Heinz Wildlife Refuge at Tinicum, Inc.;
Hank Hox; The Honorable Ron Raymond;
The Honorable Elric C. Gerner;
The Honorable Geoff Semenuk;
The Honorable Henry A. Eberle, Jr.; Robert J. Willert;
Thomas J. Giancristoforo, Jr.; Michael Smith;
Frank Samsel; John F. Gresch

QUESTIONS PRESENTED

The Clean Air Act, codified at 42 U.S.C. § 7401, *et seq.*, Conformity Provision provides that "[n]o department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve, any activity which does not conform to an implementation plan after it has been approved or promulgated under section 7410 of this title." 42 U.S.C. § 7506(c)(1). The Court of Appeals for the District of Columbia Circuit found that, although the Federal Aviation Administration (FAA) "did not directly calculate the level of emissions" resulting from a redesign of approach and departure paths at five major airports across five states with five separate State Implementation Plans (SIPs) in the northeastern United States, it "did not need to quantify the reduction [in emissions] in order to conclude the redesign was exempt from a conformity determination." The Court of Appeals further found that, assuming FAA's omission was error, Petitioners had failed to prove the error harmful. The questions presented are:

1) Whether FAA's violation of the substantive command of Congress in the Conformity Provision of the Clean Air Act is the type of error that has the natural effect of prejudicing Petitioners' substantial rights, and, thus, may "generally" be regarded as likely to prove harmful; and

2) if so, whether the Court of Appeals erred in placing the burden of proving harm from FAA's error on Petitioners.

PARTIES TO THE PROCEEDING

Petitioners, who were Petitioners in the Court of Appeals, are County of Delaware, Pennsylvania; The Honorable Andrew J. Reilly; The Honorable Linda A. Cartisano; The Honorable Mary Alice Brennan; The Honorable Michael V. Puppio; The Honorable John J. Whelan; Friends of the Heinz Wildlife Refuge at Tinicum, Inc.; Hank Hox, the Honorable Ron Raymond; The Honorable Elric C. Gerner; The Honorable Geoff Semenuk; The Honorable Henry A. Eberle, Jr.; Robert J. Willert; Thomas J. Giancristoforo, Jr.; Michael Smith; Frank Samsel; and John F. Gresch.

Respondents, who were Respondents in the Court of Appeals, are United States Department of Transportation; Mary E. Peters; Federal Aviation Administration; Bobby Sturgell; and Manny Weiss.

Parties to cases consolidated in the Court of Appeals who are not parties to this petition are City of Elizabeth, N.J.; J. Christian Bollwage; Rockland County, N.Y.; Board of Chosen Freeholders of Bergen County, N.J.; NJ Boroughs; New Jersey Coalition Against Aircraft Noise (NJCAAN); County of Union; Union County Freeholders Air Traffic and Noise Advisory Board; Friends of the Rockefeller State Park Preserve, Inc.; The Timbers Civic Association; The Clair Manor Maintenance Association; Perth Civic Association; Northshire-Maplechase Civic Association; Chalfonte Civic Association; Kennett Pike Association; The Brandywine Civic Association; the North Graylyn Crest Civic Association; The Ramblewood Civic

Association; The Village of Arden; The Village of Ardentown; The Village of Ardencroft; the Honorable Catherine A. Cloutier; Stephen F. Donato; and Amy K. Pollock.

CORPORATE DISCLOSURE STATEMENT

All non-governmental petitioners are either nonprofit organizations or individuals. None of them has a parent corporation, and no publically-held company has a 10% or greater ownership interest in any of those entities.

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PETITION FOR WRIT OF CERTIORARI

Petitioners respectfully petition for a writ of certiorari to review the Judgment of the United States Court of Appeals for the District of Columbia Circuit.

OPINIONS BELOW

The opinion of the Court of Appeals is not reported. It is available at 2009 WL 1791345 and reproduced in the Appendix to this Petition [App. *infra,* 1a-12a]. The Federal Aviation Administration September 28, 2007 Corrected Record of Decision for the New York/New Jersey/Philadelphia Metropolitan Area Airspace Redesign is reproduced in the Appendix [App. *infra,* 13a-140a]. The order denying Petitioners' petition for rehearing *en banc* is unreported, and is reproduced in the Appendix [App. *infra,* 141a-142a].

JURISDICTION

The Judgment of the Court of Appeals was entered on June 10, 2009. A timely petition for rehearing *en banc* was denied on August 19, 2009. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

STATUTORY AND REGULATORY PROVISIONS

The relevant provisions of the Clean Air Act, 42 U.S.C. § 7401, *et seq.*, are set forth in the Appendix [App. *infra,* 143a-160a]. 49 U.S.C. § 46110 is set forth

in its entirety in the Appendix. [App. *infra,* 161a-162a]. The relevant provisions of the Administrative Procedures Act, 5 U.S.C. § 500, *et seq.*, are set forth in the Appendix [App. *infra,* 163a-164a]. The Federal harmless error statute, 28 U.S.C. § 2111 is set forth in the Appendix [App. *infra,* 165a]. The relevant provisions of the U.S. Environmental Protection Agency's regulations "Determining Conformity of General Federal Actions to State or Federal Implementation Plans", 40 C.F.R. § 93.150 *et seq.*, are set forth in the Appendix [App. *infra,* 166a-173a].

STATEMENT

In December, 2007, FAA began implementing the New York/New Jersey/Philadelphia Metropolitan Airspace Redesign Project (Project), a reorganization of air traffic over five states, involving five major and sixteen satellite airports throughout the Northeastern United States. In preparation for implementation, FAA issued a Draft Environmental Impact Statement (DEIS). The DEIS did not include calculation of emissions or analysis of potential changes in air emissions levels resulting from the Project, as required by the Clean Air Act's Conformity Provision, 42 U.S.C. § 7506. In July, 2007, in response to numerous comments, FAA issued a Final Environmental Impact Statement (FEIS) which included Appendix R, "Effect of New York/New Jersey/Philadelphia Airspace Redesign on Aircraft Fuel Consumption" (Fuel Burn Report). The Fuel Burn Report purported to show that the Project would reduce fuel burn, on average, throughout the entire Northeast Project area, although fuel burn would increase at some individual airports.

The Fuel Burn Report therefore concluded that emissions would decrease, on average, because of the decrease in fuel burned resulting from the Project, and, thus, the Project would be exempt from the conformity requirement as having a *de minimis* impact.

The Fuel Burn Report did not calculate or analyze emissions; did not address the Clean Air Act's express requirement that conformity be determined with respect to each State Implementation Plan (SIP); and did not apply the regulations promulgated by the Environmental Protection Agency (EPA) (to which Congress delegated responsibility for implementing the Clean Air Act), for determining whether a project is subject to a *de minimis* exemption from conformity, 40 C.F.R. § 93.153(c) and (b). Despite the absence of relevant analysis to support FAA's conclusion, the Court of Appeals opined that FAA "did not need to quantify the reduction [in emissions] in order to conclude the redesign was exempt from a conformity determination," [App. *infra,* 12a]. It further opined that, even assuming FAA erred in failing to inventory emissions, Petitioners had "failed to identify any way in which the error was or might have been harmful." [App. *infra,* 11a].

The FAA's omission and the subsequent Court of Appeals ruling give rise to significant issues, both legal and practical. From a legal perspective, the Court of Appeals' ruling fails to take into account the evolution of this Court's jurisprudence concerning: (1) whether violation by a Federal agency of the substantive, rather than technical/procedural,

provisions of a civil statute have the "natural effect" of prejudicing a petitioner's "substantial rights," an issue previously addressed by this Court in the context of criminal statutes; and (2) if so, whether the Court of Appeals erred in placing the burden of proving harm from FAA's lack of compliance with the Conformity Provision on Petitioners, rather than placing the burden on the agency to prove absence of harm.

From a practical perspective, the appellate ruling opens the flood gates to Federal agencies seeking relief from the draconian, yet, as Congress decided, important, substantive requirements of the Conformity Provision, at a time when air quality and its impact on climate change, have taken a prominent place in the national consciousness. It also risks a clash between the intent of Congress as expressly set forth in the Act, and a contrary construction by the Executive and Judicial Branches. For those reasons, and, because these questions will remain unanswered in the absence of any other avenue of review from the Court of Appeals' original jurisdiction over challenges to FAA actions, this Court's grant of the Petition for Writ of Certiorari is imperative.

The National Airspace Redesign

In April, 1998, then FAA Administrator, Jane Garvey, announced the "National Airspace Redesign Project." "The goals of the [airspace] redesign . . . [were] to maintain and improve system safety; improve the efficiency of the air traffic management and reduce delays; increase system flexibility and predictability; and *seek to reduce adverse environmental effects on*

communities in and around our Nation's airports." Statement Of Arlene B. Feldman, Regional Administrator, Eastern Region, Federal Aviation Administration, Before the Aviation Subcommittee of The House Transportation and Infrastructure Committee on Air Traffic Departures at Newark International Airport, November 4, 1999 (Feldman Statement) [emphasis added]. [App. *infra,* 207a]. The New York/New Jersey/Philadelphia Metropolitan Airspace Redesign Project that is the subject of this lawsuit, became the flagship of the national effort.

The Project

The Project entails changes in air traffic control procedures and flight paths affecting aircraft operations at airports in a 31,180 square mile, five-state region in the New York/New Jersey/Philadelphia metropolitan area. FEIS, p. ES-8 [App. *infra,* 216a]. There are over 8,000 flights a day into and out of the New York/New Jersey/Philadelphia metropolitan areas, more than any other major metropolitan area in the U.S., accommodating 300,000 passengers and 10,000 tons of cargo. Feldman Statement [App. *infra,* 207a-208a]. The Project focuses on five major airports and 16 satellite airports in the Study Area. The five major airports are:

- John F. Kennedy International (JFK) - New York
- LaGuardia (LGA) - New York
- Newark Liberty International (EWR) - New Jersey
- Teterboro (TEB) - New Jersey

- Philadelphia International (PHL) - Pennsylvania

FEIS, pp. ES-8, 9 [App. *infra,* 217a].

In testimony before Congress, the FAA stated that one of the Project's goals *"is to enhance the environment to the degree consistent with safety and efficiency, both with noise abatement and improvements in air quality."* Feldman Statement (emphasis added). [App. *infra,* 208a]. In addition to promising Congress that the Project would reduce adverse environmental impacts, the FAA made the same promise to the public. An FAA "Pre-Scoping Summary Report" stated, among other things: "Some of the benefits of a major redesign include: . . . ◦ *Reduced adverse environmental impacts such as noise and air emissions . . .,"* Pre-Scoping Summary Report, § 1-1, Purpose and Need for Airspace Redesign Program, pp.1-2 [emphasis added] [App. *infra,* 265a].

The Project was officially initiated on January 22, 2001 when FAA issued a Notice of Intent to prepare an Environmental Impact Statement (EIS). FEIS at 1-1. [App. *infra,* 224a]. After receiving comments and holding several public meetings, the FAA developed a "Scoping Report" in March 2002. In the 2002 Scoping Report, the FAA stated with respect to "air emissions" that:

> Air Emissions Many of the scoping comments listed air emissions from aircraft as a concern that should be addressed during the Airspace Redesign

> Project and EIS development. The majority of the comments concerning air emissions were generated from the following areas: northern New Jersey (including areas west of Newark airport and along the northern New Jersey shoreline), areas surrounding JFK airport in New York and areas surrounding both Wilmington (DE) and Philadelphia airports.
>
> . . .
>
> EIS Analysis: It is neither within the FAA's regulatory authority nor expertise to carry out a health-effects type study of air quality in the study area for this EIS. *However, the required air quality analysis will be done.*

2002 Scoping Report, p. 6 [emphasis added] [App. *infra,* 267a-268a]. Having promised the citizens of the Study Area a second time that the required air quality analysis would be done, the FAA moved on to develop its DEIS.

DEIS

In December, 2005, the FAA issued its DEIS. The Project, as depicted in the DEIS, mirrored the description in the Pre-Scoping Summary Report. Aside from listing counties in the study area as non-attainment and maintenance areas for criteria pollutants, the DEIS did not contain any of the promised air quality analysis. Instead, the DEIS relied on a purported exemption for "Air Traffic

Control Activities and Adopting Approach, Departure and Enroute Procedures for Air Operations" derived from the preamble to the EPA's General Conformity Rule, 40 C.F.R. § 93.150, *et seq.* *See*, 58 *Fed.Reg.* 63,214, 229 (1993) [App. *infra*, 242a]. The DEIS states, in pertinent part:

> The FAA met with the representatives of EPA Regions 1, 2 and 3 to discuss the Proposed Action alternatives and analysis of air quality impacts. (EPA Regions 1, 2, and 3 have jurisdiction over areas with the Study Area.) *During these meetings the FAA indicated that no air quality analysis would be undertaken.* Several reasons were provided to explain the FAA's assertion that no detailed air quality analysis was required and that no significant air quality impacts would result from the implementation of the Proposed Action. These reasons were:
>
> - The Proposed Action alternatives examined in this Draft EIS are exempt from analysis under the General Conformity Rule. The final rule for Determining Conformity of General Federal Actions to State and Federal Implementation Plans was published in the Federal Register in 1993. In Section

> 51.853 (c)(1), the Environmental Protection Agency (EPA) lists actions that are *de minimis* and, thus, do not require an applicable analysis under this rule. EPA states in the preamble to this regulation that it believes, "air traffic control activities and adopting approach, departure, and en route procedures for air operations" are illustrative of *de minimis* actions.

DEIS p. 4-57 [emphasis added]. [App. *infra*, 211a-212a].

Presumed To Conform Rule

After the DEIS was published, the FAA took advantage of a provision in the EPA's General Conformity Rule[1] and developed a list of FAA actions it "presumed" would conform to the applicable SIPs.[2]

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[1] "Notwithstanding other requirements of this subpart, actions specified by individual Federal agencies that have met the criteria set forth in either paragraph (g)(1) or (g)(2) of this section and the procedures set forth in paragraph (h) of this section are presumed to conform, except as provided in paragraph (j) of this section. 40 C.F.R. § 93.153(f).

[2] Petitioners have twice raised the issue of the Presumed to Conform Rule's unconstitutional delegation of

On or about February 12, 2007, the FAA published its Draft *Federal Presumed to Conform Actions Under General Conformity* in the Federal Register. [72 *Fed.Reg.* 6641-6656 (2007)] ("Draft Presumed to Conform Rule").

The Draft Presumed to Conform Rule contained a list of fifteen Airport Project categories which the FAA "presumes" to conform to applicable SIPs, without the need for individual conformity review and analysis prior to the implementation of each project within the specified category. Project Category No. 14, *Air Traffic Control Activities and Adopting Approach Departure Enroute Procedures for Air Operations*, stands out from among all of the others in that it is the only Project Category that: (1) involves aircraft operations and engine emissions; (2) extends off-airport; and (3) had not been subject to analysis in some form to determine the level of emissions. 72 *Fed.Reg.* 6654 (2007 [App. *infra,* 251a-254a]. On July 30, 2007, the FAA published a Final Presumed to Conform Rule in the Federal Register. 72 *Fed.Reg.* 41,565-580 (2007). Although some changes were made to the text discussing Category 14, the substance, *i.e.*, that changes in air traffic control activities would be

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legislative authority from EPA to other federal agencies where Clean Air Act § 7506(c)(4) specifically states that the EPA Administrator exclusively "shall promulgate criteria and procedures for determining conformity" while the EPA's Presumed to Conform provision allows any Federal agency to develop a list of exempt project categories. In both instances, the Court of Appeals declined to rule on the constitutionality of the EPA's Presumed to Conform rules.

"presumed to conform," was not modified in any way. 72 *Fed.Reg.* 41,578 (2007) [App. *infra,* 257a].

FEIS

In July, 2007, the FAA released the FEIS. In the FEIS, FAA addressed numerous comments it received concerning its failure in the DEIS to study air quality impacts. Most notably, the FAA disclosed that "[s]ince issuance of the DEIS, the FAA was advised by the EPA that it should not use the Preamble to the [General Conformity Rule] to determine de minimis actions for 'air traffic control activities and adopting approach, departure, and en route procedures for air operations.'" [FEIS, p. ES-10] [App. *infra,* 221a]. The FEIS further stated:

> Recently, the FAA has determined that it can not rely on the preamble and on February 12, 2007 issued a Draft Federal Notice Federal Presumed to Conform Actions Under General Conformity [Federal Register6: February 12, 2007 (Volume 72, Number 28)] which formally defines these types of actions above 1,500 feet above ground level (AGL) as de minimis. . . To reinforce the FAA presumption that the Proposed Action would be de minimis a fuel burn analysis was completed for the FAA's Preferred Alternative with and without mitigation, both versions of the Preferred Alternative reduced fuel burn when compared to the Future No Action Alternative.

> Additionally, the Airspace Redesign will not increase traffic over the Future No Action. Lastly the project will not cause a new violation, worsen an existing violation, or delay meeting the National Ambient Air Quality Standards.

Notably missing, however, was any calculation of emissions, or analysis of the effect that the emissions from the Project would have on the various SIPs in the study area.

Fuel Burn Report

The FEIS rested its conformity conclusion on the Fuel Burn Report, FEIS, App. R, which was prepared after issuance of the DEIS. The Fuel Burn Report purported to translate operational modeling into units of fuel consumption. *See id.* at 1 [App. *infra,* 181a]. It concluded that the modeled delay reduction at high levels of operational demand for the year 2011 would produce an average reduction in fuel consumption of less than 1%. *Id.* at 7, 9 [App. *infra,* 189a, 192a-193a]. While the Fuel Burn Report did not "directly calculate the level of emissions," as acknowledged by the Court of Appeals [App. *infra,* 10a], it indicated that at least at two airports (Teterboro, one of the five major airports, and Morristown Municipal, one of 16 satellite airports) there would be an *increase* in *fuel burn*. Fuel Burn Report at pp. 7-8 [App. *infra,* 189a-190a]. The Fuel Burn Report does not analyze the way in which the increase in fuel burn at Teterboro and Morristown translates into an increase in emissions and the effect

that would have on the SIP for the surrounding area, since Bergen and Morris Counties, in which the two airports are located, are maintenance areas for carbon monoxide and non-attainment areas for ozone and PM2.5. FEIS, pp.3-50, 3-52, and 3-55 [App. *infra,* 225a-226a, 231a, 237a-238a].

Record of Decision

On September 5, 2007, FAA issued its Record of Decision (ROD) for the Project. On September 28, 2007, FAA issued a "Corrected" ROD (Corrected ROD) [App. *infra,* 13a-140a], which did not change the conclusions in the ROD, including FAA's bases for its conformity decision.

The Corrected ROD concluded that the "selected project conforms with the purposes of the SIPs in the six [sic] States within the Study Area," [Corrected ROD, p. 56 [App. *infra,* 133a]] on the ground that "[b]ased upon the EIS and the clarification in the footnote below regarding regional significance, the proposed airspace redesign alternatives and the selected project are either exempt or presumed to conform under the General Conformity Rule." Corrected ROD, pp.43-44 [App. *infra,* 105a-106a].

National Airspace Redesign

The Project is the first major, regional airspace redesign in the U.S. Currently, the airspace over Florida, Illinois, the District of Columbia, and the Southwest, including California and Arizona, are in planning for redesign according to FAA's 2009-2013

Flight Plan. FAA's Flight Plan also indicates that in fiscal year 2009 FAA intends to redesign the airspace of San Francisco, Las Vegas, Charlotte, in addition to New York, Philadelphia, Chicago and Los Angeles. [2009-2013 FAA Flight Plan, p. 21 [App. *infra,* 270a]. Each of these cities over which FAA plans to redesign the airspace contains at least one nonattainment or maintenance area that are part of a State Implementation Plan. Thus, the Conformity Provision will arise as an issue in each of those projects.

Litigation History

On September 14, 2007, Petitioners filed a Petition for Review, pursuant to 49 U.S.C. § 46110, in the United States Court of Appeals for the Third Circuit. The Petition for Review was subsequently consolidated with other petitions for review in the United States Court of Appeals for the District of Columbia Circuit, under the caption *County of Rockland, New York, et al. v. FAA, et al.,* Case No. 07-1363. In their Joint Brief, filed August 29, 2008, Petitioners argued, *inter alia*, that FAA had failed to analyze the emissions created by the Project and thus, failed to analyze the Project's impacts in each of the maintenance and non-attainment areas within each SIP pursuant to the requirements of the Clean Air Act's Conformity Provision, 42 U.S.C. § 7506(c)(1).

On May 11, 2009, the D.C. Circuit held oral argument, and on June 10, 2009, issued its *per curiam* opinion, dismissing all of the Petitions for Review [App. *infra,* 1a-12a]. The Court of Appeals summarily concluded that the Project is "exempt from a

conformity determination under the *de minimis* exemption" because, even though FAA "did not directly calculate the level of emissions resulting from the project," [App. *infra,* 10a], FAA reasonably "concluded the redesign" will reduce emissions in the study area. [App. *infra,* 10a, 11a]. Moreover, the Court of Appeals concluded that even if FAA erred in failing to comply with the Clean Air Act by inventorying emissions, "the petitioners still have failed to identify any way in which the error was or might have been harmful." [App. *infra,* 11a].

Petitioners filed a Petition for Rehearing and Rehearing *En Banc* on July 23, 2009. The Court of Appeals denied Petitioners' Petition for Rehearing on August 19, 2009. [App. *infra,* 141a-142a].

REASONS FOR GRANTING PETITION

In deciding this case, the Court of Appeals encroached on the prerogatives reserved to Congress under the Constitution and delegated to the EPA when Congress enacted the Clean Air Act. The Court of Appeals did so by placing upon Petitioners the burden of proving harm from FAA's failure to comply with the substantive command of Congress that "[n]o department, agency, or instrumentality of the Federal Government shall engage in, support in any way, or provide financial assistance for, license or permit, or approve, any activity which does not conform to an implementation plan after it has been approved or promulgated under section 7410 of this title." 42 U.S.C. § 7506(c)(1). In reaching its decision, the Court of Appeals relied on the scope of review in the

Administrative Procedures Act, 5 U.S.C. § 706 (APA). But it made that decision in a vacuum, without guidance by this Court which has hitherto declined to consider in a civil context the question first raised in *Kotteakos v. United States*, 328 U.S. 750, 760-761 (1946) in a criminal context: whether a governmental action that violates a substantive, rather than technical or procedural command of Congress may generally be regarded as having the "natural effect" of prejudicing "a litigant's substantial rights," such that the burden should rest with government to prove the harmlessness of its action.

This Court has been consistent in defining the term "prejudicial error" as used in the APA as: "intended to 'su[m] up in succinct fashion the "harmless error" rule applied by the courts *in the review of lower court decisions as well as of administrative bodies*.'" *Shinseki v. Sanders*, 129 S.Ct. 1696, 1704 (2009), *quoting Department of Justice, Attorney General's Manual on the Administrative Procedures Act* 110 (1947) [emphasis in original]. This Court has been further guided by the Federal "harmless error" statute, 28 U.S.C. § 2111, which it has found applicable in both civil and administrative contexts. *Shinseki*, 129 S.Ct. at 1704. ["The federal 'harmless error' statute, now codified at 28 U.S.C. § 2111, tells courts to review cases for errors of law 'without regard to errors' that do not affect the parties' 'substantial rights,'" *id.* at 1705, *quoting* 28 U.S.C. § 2111.]

The assignment of the burden of proving that a prejudicial error has occurred has, however, not

always been consistent. ". . . [C]ourts have correlated review of ordinary administrative proceedings to appellate review of civil cases . . . Consequently, the burden of showing that an error is harmful normally falls upon the party attacking the agency determination." *Id.* at 1706. Courts adjudicating criminal cases, however, recognized long ago that a court may not disregard a right Congress gave a defendant. *Bruno v. United States*, 308 U.S. 287, 293 (1939).

In *Kotteakos*, also a criminal case, Justice Rutledge, while holding that the usual incidence of the burden applies where "technical errors" are being challenged, *Kotteakos*, 328 U.S. at 760, went further to hold that "this burden does not extend to all errors," *Id.* Rather, "[i]f the error is of such a character that its natural effect is to prejudice a litigant's substantial rights, the burden of sustaining a verdict will . . . rest upon the one who claims under it [the verdict]." *Id.*, *quoting Bruno*, 308 U.S. at 294. The *Kotteakos* court then asserted in dictum that, while the usual incidence of the burden on the one challenging the verdict should apply where an error had a "very slight effect," *Id.* at 764, an "exception" would lie "perhaps where the departure is from a constitutional norm or a specific command of Congress." *Id.* at 764-65, *quoting Bruno*, 308 U.S. at 294.

Ultimately, this Court, in deciding *Shinseki*, *supra*, moved further toward qualifying the traditional assignment of the burden of proof under the harmless error rule in two "important" ways. First, it declined to "decide the lawfulness of the use by the Veteran

Court of what it called the 'natural effects' of certain kinds of notice errors," *id.* at 1706-07, and held that "courts may sometimes make empirically based generalizations about what kinds of errors are likely, as a factual matter, to prove harmful." *Id.* at 1707 *citing Kotteakos*, 328 U.S. 760-761. Second, this Court "recognized" that Congress has expressed "special solicitude" for certain causes, *id.*, (in *Shinseki*, the cause of veterans' right to disability benefits). *Shinseki* did not, however, clarify whether the violation of a specific Congressional command in the substantive provisions of a civil statute is the type of error that may *generally* be regarded as having the "natural effect" of prejudicing a litigant's "substantial rights," as suggested in *Kotteakos*.

In this case, the Court of Appeals placed the burden on Petitioners to establish prejudice from FAA's failure to comply with the specific, substantive commands of Congress which apply to all Federal agencies - to analyze emissions with the goal of achieving conformity within each nonattainment or maintenance area included in the scope of the Project; to comply with each applicable SIP, 42 U.S.C. § 7506(c)(1); or, in the alternative, to establish exemption from the conformity requirement through compliance with regulations promulgated by the EPA, 40 C.F.R. §§ 93.153(c)(1) and (b).

In misapprehending the import of FAA's error, the Court of Appeals disregarded this Court's evolving precedent with respect to proof of harm. Moreover, it placed an unreasonable evidentiary burden on Petitioners, analogous to the one this Court held

impermissible when placed upon the Veterans' Administration in *Shinseki*, 129 S.Ct. at 1705. In that case, the statutory framework utilized by the Veteran's Court required the court to find a notice error harmful unless, among other things, "the VA '[Veterans' Administration] demonstrates (1) that the claimant's 'actual knowledge' cured the defect," *id.*. The court held that requiring the Secretary of the Veterans Administration to ascertain a claimant's "state of mind," *id.*, would "often prove difficult, perhaps impossible." *Id.* That burden is even more unreasonable here where the evidence is entirely within the control of FAA and there is a total absence of data in the Administrative Record, the only evidence admissible in a case brought under the APA from which Petitioners might establish harm. 5 U.S.C. § 706(2)(E). The question of the incidence of the burden of proving harm from violation of a substantive, rather than procedural, statute begs for clear and final determination by this Court.

The decision below raises critical practical as well as legal issues. The Court of Appeals' unfiltered application of the traditional harmless error rule, even to violations of unequivocal Congressional direction in circumstances where compliance is a clear Congressional priority, *see Environmental Defense Fund v. EPA*, 167 F.3d 641, 643 (D.C. Cir. 1999), *citing Clean Air Conference Report*, 136 Cong. Rec. 36,103, 36,105-06 (1990), threatens not only the substantial rights of Petitioners to receive the benefits granted by Congress, but also the fundamental integrity of Congress' legislative scheme, enacted with the clear

goal of "healthy and safe air for every American." 101 *Cong.Rec.S* 16956 (Daily Ed. Oct. 27, 1990).

Moreover, the Court of Appeals' rationale for its decision, *i.e.*, that another method of analyzing air quality, an unauthorized Fuel Burn Report, was an adequate surrogate for the procedures mandated by Congress and EPA, has serious practical implications for future compliance. This is true for FAA that is even now embarked on planning for airspace redesign projects similar to the one at issue here across the United States, as well as for other Federal agencies that may construe the Court of Appeals' liberal approach as a "free pass" to rewrite the rules for compliance with Congress' unequivocal mandate to achieve conformity.

This Court's review is, therefore, crucial to resolving the issue of the incidence of burden of proof of prejudice in the context of violation of a substantive civil statute, thereby ensuring consistent direction from Congress and the courts for compliance with the Clean Air Act.

A. The Appellate Court Disregarded This Court's Evolving Precedent in Finding That the Burden of Proving Harm from FAA's Violation of a Substantive Provision of the Clean Air Act Should Fall on Petitioners.

The Clean Air Act's Conformity Provision admonishes that "[n]o department, agency, or instrumentality of the Federal Government shall

engage in, support in any way or provide financial assistance for, license or permit, or approve, any activity which does not conform to an implementation plan after it has been approved or promulgated under section 7410 of this title."[3] 42 U.S.C. § 7506(c). Because the Clean Air Act's judicial review provisions extend only to violation of a specific emissions standard or limit, 42 U.S.C. § 7604, or a challenge to an action by the EPA Administrator, 42 U.S.C. § 7607, challenges to compliance by FAA are brought under the Administrative Procedures Act, *City of Olmsted Falls v. FAA*, 292 F.3d 261, 269 (D.C. Cir. 2002). 49 U.S.C. § 46110 places original jurisdiction over challenges to FAA actions in the Courts of Appeals.

The scope of review properly applied by the Court of Appeals is found in 5 U.S.C. § 706(2). It instructs a reviewing court to, *inter alia*,

> hold unlawful and set aside agency action, findings, and conclusions found to be -- (A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law; (B) contrary to constitutional right, power, privilege, or immunity; (C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right.

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[3] Section 7410 establishes procedures for implementation of "state implementation plans for national primary and secondary ambient air quality standards."

See also, Federal Communications Commission v. Fox Television Stations, Inc., 129 S.Ct. 1800, 1823 (2009), Justice Kennedy, concurring in part and concurring in the judgment["and, of course, the agency must not be 'in excess of statutory jurisdiction, authority or limitations, or short of statutory right.'" § 706(2)(C)]. Section 706 further directs a reviewing court that, "[i]n making the foregoing determinations, the court shall review the whole record or those parts of it cited by a party, and due account shall be taken of the rule of prejudicial error."

The APA does not specifically define either the term "due account" or "prejudicial error." This Court, however, has weighed in on both. In *Shinseki, supra*, 129 S.Ct. at 1704, this Court held that "the APA's reference to 'prejudicial error' is intended 'to su[m] up in succinct fashion the 'harmless error' rule applied by the courts *in the review of lower court decisions as well as of administrative bodies*,'" *Id., quoting Department of Justice, Attorney General's Manual on Administrative Procedures Act 110* (1947) [emphasis in original]. This Court has further taken advantage of a relevant analogy to the more descriptive "federal 'harmless error' statute, now codified at 28 U.S.C. 2111," *Shinseki*, 129 S.Ct. at 1705, which "tells courts to review cases for errors of law, 'without regard to errors' that do not affect the parties 'substantial rights.'" *Id., quoting Kotteakos, supra*, 328 U.S. at 760.

The *Kotteakos* court, referring to 28 U.S.C. § 2111's predecessor's statute, "Section 269 of the Judicial Code, as amended, 28 U.S.C. § 391, 28

U.S.C.A 391," *Id.* at 756, relied on the legislative intent enunciated in H.R. Rep. No. 913, 65th Congress, 3rd Session 1 in holding that the fundamental purpose of § 269 was "to cast upon the party seeking a new trial the burden of showing that any technical errors he may complain of have affected his substantial rights, otherwise they are to be disregarded." *Id.* at 760. "Whether the burden of establishing that the error affected substantial rights, or, conversely, the burden of sustaining the verdict shall be imposed, turns on whether the error is 'technical' or is such that 'its natural effect is to prejudice a litigant's substantial rights,'" *Id.*

The *Kotteakos* court went further, however, and relied upon additional Congressional intent language for the proposition that "if the error is of such a character that its natural effect is to prejudice a litigant's substantial rights, the burden of sustaining a verdict will, not withstanding this legislation, rest upon the one who claims under it [the verdict]," *Id.* at 761-62, *citing, inter alia*, *Bruno*, 308 U.S. at 294. This Court's subsequent decision in *Shinseki* referred to the *Kotteakos* standard in opining that "[c]ourts may sometimes make empirically based generalizations about what kinds of errors are likely, as a factual matter, to prove harmful," *Shinseki*, 129 S.Ct. at 1707, *citing Kotteakos*, 328 U.S. at 760-761.

While this Court specified certain "factors that inform a reviewing court's 'harmless error'

determination," *Shinseki*, 129 S.Ct. at 1707,[4] it also held that it is the court of original jurisdiction (here the Court of Appeals) "that sees sufficient, case-specific raw material . . . to enable it to make empirically-based, nonbinding generalizations about 'natural effects' . . ." *Id.*

Ultimately, the *Kotteakos* court both clarified and qualified its holding:

> If, when all is said and done, the conviction is sure that the error did not influence the jury, or had but a very slight effect, the verdict and the judgment should stand, except perhaps where the departure is from a constitutional norm or a specific command of Congress [citation omitted] . . . The inquiry cannot be merely whether there was enough to support the result, apart from the phase affected by the error. It is rather, even so, whether the error itself had substantial influence. If so, or if one is left in grave doubt, the conviction cannot stand.

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[4] These "case specific factors" include "an estimation of the likelihood that the result would have been different, an awareness of what body (jury, lower court, administrative agency) has the authority to reach that result, a consideration of the error's likely effects on the perceived fairness, integrity or public reputation of judicial proceedings, and a hesitancy to generalize too broadly about particular kinds of errors when the specific factual circumstances in which the error arises may well make all the difference." *Shinseki*, 129 S.Ct. at 1707.

Id. at 765 [emphasis added].

The first unanswered question before this Court is, therefore, whether the facial violation of the substantive provision of a civil statute, by a Federal agency, is that sort of error which has the "natural effect" of prejudicing a litigant's "substantial rights," and, thus, may "generally" be regarded as "likely to prove harmful."

1. Compliance with the Clean Air Act's Conformity Provision is a Substantive, Not Merely Technical, Statutory Requirement.

This Court has long recognized that the substantive provisions of a statute do not merely require following a "necessary process" prescribed in the statute, *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989), but rather the achievement of "result-based standards," *Id.* at 353. In *Robertson*, petitioners argued that the National Environmental Policy Act, 42 U.S.C. § 4321, *et seq.*, required that each Federal agency include in an EIS, among other things, a fully developed plan to mitigate environmental harm. The Ninth Circuit agreed, but this Court reversed and remanded, holding that while NEPA's "action forcing" procedures "are almost certain to affect the agency's substantive decision, it is now well settled that NEPA itself does not mandate particular results, but simply prescribes the necessary process." *Id.* at 350. In short, this Court found a "fundamental distinction . . . between a requirement

that mitigation be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated, on the one hand, and a substantive requirement that a complete mitigation plan be actually formulated and adopted on the other." *Id.* at 352.

This Court's distinction in *Robertson* confirms the Conformity Provision's substantive nature. The Court of Appeals in *Environmental Defense Fund v. EPA*, 167 F.3d 641, 643 (D.C. Cir. 1999) ["EDF II"] has described the Clean Air Act's substantive mandate:

> The Clean Air Act establishes a joint state and federal program for regulating the nation's air quality. The Act requires EPA to establish national ambient air quality standards ('NAAQS') for various pollutants. *See*, 42 U.S.C. § 7409 (1994). It also requires each state to adopt a State Implementation Plan (known as a 'SIP') that 'provides for implementation, maintenance and enforcement of [NAAQS] in each air quality control region (or portion thereof) within such State.' *Id.* § 7410(a)(1). SIPs must include 'enforceable emission limitations and other control measures, means or techniques . . ., as well as schedules and timetables for compliance, as may be necessary or appropriate' to meet the NAAQS. *Id.* § 7410(a)(2)(A). [Emphasis added.]

Environmental Defense Fund, 167 F.3d at 643. The Conformity Provision further "requires each federal agency to determine that a proposed activity in a 'nonattainment' or 'maintenance' area conforms to an applicable SIP. . ." *Environmental Defense Fund v. EPA*, 82 F.3d 451, 454 (D.C. Cir. 1996) ["EDF I"]. And, EPA's regulations implementing the Conformity Provision establish "tonnage thresholds of emissions below which the conformity of a federal action is presumed," *Id.* at 465, thus establishing a result-based standard for determining exemption from the conformity requirement for "*de minimis*" impacts.

The contrast between this Court's analysis of NEPA in *Robertson* and the analysis of the Court of Appeals in the *EDF* cases, *supra*, clearly demonstrates the Conformity Provision's "result based," substantive nature, which requires compliance with the specific "tonnage thresholds" in a SIP to establish conformity, as well as compliance with the specific tonnage thresholds in § 93.153(b) to establish exemption from conformity.[5] Thus, far from constituting a mere procedural template, the Conformity Provision provides that "action be taken . . .," *Robertson*, 490 U.S. at 347, and prescribe with reference to each state's air quality standards memorialized in its SIP, "particular results" to be met. *Id.* at 350.

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[5] Section 93.153(c) states in part: "The requirements of this subpart shall not apply to the following Federal Actions: (1) actions where the total of direct and indirect emissions are below the emissions levels specified in paragraph (b) of this section."

2. Compliance is Also a Substantial Right Accorded to Petitioners Specifically and the Public in General.

This Court has typically addressed the issue of "substantial rights" in the context of criminal cases. *See, e.g.*, *Puckett v. United States*, 129 S.Ct. 1423, 1429 (2009) ["[e]rror must have affected the appellant's substantial rights, which in the ordinary case means he must demonstrate that it 'affected the outcome of the district court proceedings.'"] This Court's analysis of the circumstances giving rise to "substantial rights" is not, however, limited to criminal cases. In *Accardi v. Pennsylvania Railroad Company*, 383 U.S. 225 (1966), petitioners, World War II Veterans and former employees of the Pennsylvania Railroad, brought an action under the Selected Training and Service Act of 1940, on the ground that the railroad had denied them seniority rights due to them under the Act. This Court held that where an act of Congress "clearly manifests a purpose and desire on the part of Congress . . .," *Id.* at 228, the party at whom that purpose is directed possesses "substantial rights guaranteed by the Act." *Id.* at 229. This was so despite the fact that "[t]he term 'seniority' is nowhere defined in the Act, but it derives its content from private employment practices and agreements." *Id.*

In this case, as in *Accardi*, the Clean Air Act clearly manifests a purpose and desire on the part of Congress "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare . . ." 42 U.S.C. § 7401(b)(1). The

scope of the term "welfare" is explicitly and broadly defined at 42 U.S.C. § 7602(h). ["All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants."]

The specific Congressional purpose underlying the Conformity Provision is no less explicit. The Record of Congressional debate concerning the 1990 Clean Air Act amendments illustrates Congress' view of the substantiality of the rights conferred by the Conformity Provision. "The experience of the last thirteen years has shown that it is necessary to do more than simply consider applicable control measures; they must be implemented as well," 101 *Cong.Rec.S* 16956 (Daily Ed. Oct. 27, 1990) in order to achieve the Bill's goals of "healthy and safe air for every American." *Id.* But unlike *Accardi*, Congress, in creating the Conformity Provision, did not simply rely on the general term "Conformity." Instead, it defined "Conformity" specifically to mean:

> Conformity to an implementation plan means - (A) conformity to an implementation plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such

> standards; *and* (B) that such activities will not - (i) cause or contribute to any new violation of any standard in any area; (ii) increase the frequency or severity of any existing violation of any standard in any area; or (iii) delay timely attainment of any standard or any required interim emission reduction or other milestones in any area.

42 U.S.C. § 7506(c)(1)(A) and (B) [emphasis added]. That Congress defined subparts (A) and (B) in the conjunctive clearly indicates that conformity must be achieved to *both* the purpose of a SIP *and* to at least one of the explicit listed standards.

Finally, this Court has repeatedly invoked the *Kotteakos* test to define the circumstances under which prejudice to a party's "substantial rights" is implicated. *See, e.g., Shinseki, supra*; *O'Neal v. McAninch*, 513 U.S. 432, 437 (1995). "But if one cannot say, with fair assurance, after pondering all that happened without stripping the erroneous action from the whole, that the judgment was not substantially swayed by the error, it is impossible to conclude that substantial rights were not affected." *Kotteakos, supra*, 328 U.S. at 765.

In *United States v. Lane*, 474 U.S. 438 (1986), this Court, relying on *Kotteakos*, defined prejudice in the context of a criminal case involving misjoinder of offenses pursuant to *Federal Rules of Criminal Procedure* 8(b). It held that "an error involving misjoinder 'affects substantial rights' and requires reversal if the misjoinder results in *actual prejudice*

because it 'had substantial and injurious effect or influence in determining the jury's verdict.'" *Id.* at 449 [emphasis added.] This Court has since held, citing 28 U.S.C. § 2111, the same statute relied upon in the *Kotteakos* analysis, "[t]hat statute, by its terms, applied to both civil and criminal cases and *Kotteakos* made no distinction. . ." *O'Neal v. McAninch*, 513 U.S. at 441.

FAA's error in relying on an unauthorized surrogate, the Fuel Burn Report, was determinative of the outcome of FAA's action in a manner contrary to Congress' specifically defined purpose, as well as EPA's implementing procedures. If the Court of Appeals' decision is allowed to stand, "[t]he statutory prohibition on projects that cause delays in attaining emissions standards would effectively be stripped of almost any impact and be inconsistent with Congress' intent that pollution production be prevented by forward planning." *Environmental Defense, Inc. v. Environmental Protection Agency*, 509 F.3d 553, 561 (D.C. Cir. 2007).

3. The Court of Appeals Therefore Erred in Placing the Burden of Proving Harm on Petitioners Where Violation by a Federal Agency of a Substantive Command of Congress Is at Issue.

In its prior decisions, this Court addressed the propriety of "empirically based, non-binding generalizations" about whether the "natural effects" of

an error, *Shinseki*, 129 S.Ct. at 1707, have had "substantial and injurious effect or influence in determining an outcome," *Lane, supra*, 474 U.S. at 449. While this Court construed the *Kotteakos* holding as confirming a "congressional preference for determining 'harmless error' without the use of presumptions, *Shinseki*, 129 S.Ct. at 1705, *citing Kotteakos*, 328 U.S. at 760, those warnings are not contravened by reliance on such "generalizations." Through such reliance "a court might "properly influence, though not control, future determinations," *Shinseki*, 129 S.Ct. at 1707, in that the "generalizations" would still require a predicate evaluation of the statutory provisions' substantive, rather than purely technical, nature, as well as the substantiality of the rights conferred, and the influence of the error on the outcome of the case.

The principal import of applying such "non-binding, case specific generalizations" is on the incidence of the burden of harm. While this Court has opined "[t]o say that the claimant has the 'burden' of showing that an error was harmful is not to impose a complex system of 'burden shifting' rules or a particularly onerous requirement," *Shinseki*, 129 S.Ct. at 1706, the Court was referring to "ordinary civil appeals." *Id.* A challenge to an administrative agency's violation of a substantive legislative command is not an "ordinary civil appeal" for several reasons.

First, the Court of Appeals in this case was the court of original jurisdiction. 49 U.S.C. § 46110(a). Petitioners have no recourse for appellate vindication other than that which resides in this Court. Second,

like other cases involving challenges to administrative actions, but very unlike an "ordinary civil appeal," this case was tried entirely on the Administrative Record created by, and completely within the control of, FAA. Petitioners had no access to evidence of air quality analysis other than that adduced by FAA in the Administrative Record before the Court of Appeals. Typically, any attempt by Petitioners to introduce contradictory evidence would have been foreclosed by the substantial deference afforded a government agency in the area of its expertise (in the case of the FAA, aircraft operations which include the amount of "fuel burn"), *Washington Gas Light Co. v. F.E.R.C.*, 523 F.3d 928, 930 (D.C. Cir. 2008) [when considering an agency's evaluation of data within its technical expertise, courts afford the agency "an extreme degree of deference."], and by the limitations on introduction of evidence from outside the administrative record created by the agency. *See, e.g., Esch v. Yeutter*, 876 F.2d 976, 991 (D.C. Cir. 1989) [when substantive soundness of agency decision is under scrutiny, judicial review of agency actions is normally confined to the administrative record . . ."].

For those reasons, the circumstances of this case are closely akin to those addressed by this Court in *O'Neal, supra*. In *O'Neal*, this Court held that "[w]hen an error's natural effect is to prejudice substantial rights and the court is in grave doubt about the harmlessness of that error, the error must be treated as if it had a 'substantial and injurious effect' on the verdict." *Id.* at 444, *citing Kotteakos*, 328 U.S. at 764-

765.[6] *O'Neal*, like this case, did not involve "a judge who shifts a 'burden' to help control the presentation of evidence at a trial," *Id.* at 436, but one who, like the Court of Appeals here, "applies a legal standard (harmlessness) to a record that the presentation of evidence is no longer likely to affect." *Id.*

This Court pointed out that "the original common-law harmless-error rule put the burden on the beneficiary of the error [here the State] . . . to prove that there was no injury . . ." *Id.* at 437, *citing Chapman v. California*, 386 U.S. 18, 24 (1967). It then proceeded to distinguish its holding to the contrary in *Palmer v. Hoffman*, 318 U.S. 109, 116 (1943) ["He who seeks to have a judgment set aside because of an erroneous ruling carries the burden of showing that prejudice resulted."] as "pre-*Kotteakos*," and confirmed that *Palmer*, like *Kotteakos*, referred to "mere technical errors" for its contrary holding. *O'Neal*, 513 U.S. at 439.

After having analyzed the equivalence of criminal and civil cases in this regard, *id.* at 440, this Court ultimately held that "[W]hen reviewing errors from a criminal proceeding, this Court has consistently held that, if the harmlessness of the error is in grave doubt, relief must be granted." *Id.* Acknowledging the identity of the harmless error standards in civil and criminal cases, this Court stated conclusively, "[C]ivil and criminal harmless-error standards do not

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[6] Like the case at issue here, *O'Neal* was a "civil case" because habeas corpus petitions are technically "civil" actions. *Id.* at 440.

differ in their treatment of grave doubt as to the harmlessness of errors affecting substantial rights." *Id.* at 441.

In summary, this case and *O'Neal* share salient characteristics. Both deal with the government's violation of a substantive civil statute. Both are cases in which the harmless error standard was applied to a "closed record." Most important, however, both deal with a situation where grave doubt exists as to the true harmlessness of a governmental error. Not a shred of data or analysis exists in the Record provided by the FAA relating to emissions, let alone their impacts. The Fuel Burn Report relied upon by the Court of Appeals concluded that reduced fuel burn was equivalent to reduced emissions on average across the entire northeast region, without taking into account either the requirements of each state's SIP, or that at least two airports located within the jurisdiction of the New Jersey SIP would experience an increase in fuel burn as a result of the Project. Nor, as acknowledged by the Court of Appeals, did the Fuel Burn Report contain a direct calculation of emissions [App. *infra*, 10a]; a comparison of emissions to the thresholds permitted for conformity in the applicable SIPs, as required by 42 U.S.C. § 7506(c)(1); or any analysis pursuant to EPA Conformity Rule §§ 93.153(c)(1) and (b) which are required for the establishment of an exemption from the conformity requirement.

Therefore, under this Court's decision in *O'Neal*, the total absence of evidence in the Record made the Court of Appeals conclusive determination of the harmlessness of FAA's error impossible. As "the

burden of proving a fact is said to be put on the party who presumably has peculiar means of knowledge," *United States v. Fior D'Italia, Inc.*, 536 U.S. 238, 257, n.4 (2002), under this Court's established jurisprudence, "the uncertain judge should treat the error, not as if it were harmless, but as if it affected the verdict (*i.e.*, as if it had a 'substantial and injurious effect or influence in determining the jury's verdict')," *O'Neal,* 513 U.S. at 435. As the party with "knowledge" in actions brought under the APA is the Federal agency, the burden should fall on Federal agencies generally, and FAA in this case specifically, to prove that the substantial rights conferred by a statute's substantive provisions have not been so undermined as to contravene the stated intent and specific result-based mandates of Congress.

B. The Issues Raised by This Case Merit This Court's Review Because Congress Showed Special "Solicitude" For Enforcement of the Clean Air Act and its Legislative Scheme.

This case gives rise to important practical as well as legal justification for this Court's grant of certiorari. First, in *Shinseki, supra*, this Court not only qualified its "normal" standard for the incidence of the burden of proof to acknowledge the possibility of "empirically based generalizations about what kinds of

errors are likely, as a factual matter, to prove harmful," *id.* at 1707, but also acknowledged "that Congress has expressed special solicitude" for certain "cause[s]." *Id.* Congress has expressed just such "solicitude" for enforcement of the Clean Air Act.

In the Clean Air Act, Congress expressed its deep concern that

> the growth in the amount and complexity of air pollution brought about by urbanization, industrial development, and the increasing use of motor vehicles, has resulted in mounting danger to the public health and welfare, including injury to agricultural crops and livestock, damage to and the deterioration of property, and hazards to air and ground transportation.

Id. at 7401(a)(2). It established as the primary goal of the Act "to encourage or otherwise promote reasonable Federal, State, and local governmental actions, consistent with the provisions of this chapter, for pollution prevention." 42 U.S.C. § 7401(c). Congress then articulated the fundamental intent of the Conformity Provision to give life to this goal by giving "clear legislative direction to incorporate air quality criteria into the review and approval of transportation plans as well as projects," 101 *Cong.Rec.S* 16956 (Daily Ed. Oct. 27, 1990), and in doing so, "protect and

enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population;" 42 U.S.C. § 7401(b)(1).

Thus, the face of the Clean Air Act, as well as the stated intent of Congress behind it, demonstrates Congress' deep concern, not merely for the plight of the individual, as in *Shinseki, supra*, but the impact of emissions on the public and the environment. The Court of Appeals' decision in this case strikes at the heart of both the Congressional purpose behind conformity and its goal, in that it excused not merely FAA, but by extension, all Federal agencies from strict compliance with the legislative standards unequivocally mandated by the Conformity Provision. The import of the Court of Appeals' decision is that any report or summary purporting to support a conformity analysis will withstand judicial scrutiny, whether or not it analyzes and documents a project's compliance with an applicable SIP; and whether or not it follows the step-by-step procedures required to establish an exemption from the conformity requirement for a project with *de minimis* impacts, *see*, 40 C.F.R. 93.153(c)(1) and (b). The Court of Appeals thus opens the door to a wholesale abrogation of the conformity requirement, at a time when the issue of emissions impacts has become even more prominent (and more threatening) as a principal contributor to the problem of climate change.

Nor is this scenario as far fetched as it may sound. FAA is intending to implement airspace redesigns similar to the Project throughout the nation. As 49 U.S.C. § 46110 places original jurisdiction over a challenge to an FAA action in the Courts of Appeals, this issue is likely to arise repeatedly, and, if the Court of Appeals' resolution in this case is used by other agencies as a template, with equal indifference to the facial mandates of the Clean Air Act.

In short, the Court of Appeals in this case effectively nullified the specific, affirmatively expressed intent of Congress with respect to conformity. But this Court has already spoken unequivocally in defense of the Congressional prerogative. Where, as here,

> "Congress has spoken with great clarity to the precise question raised by this case[,] [i]t is the duty of the courts to enforce the judgment of the legislature, however much we might question its wisdom or fairness. Often we have urged the Congress to speak with greater clarity, and in this statute it has done so. If the effects of the law are to be alleviated, that is within the province of the legislature."

Estate of Floyd Cowart v. Nicklos Drilling Company, 505 U.S. 469, 483-84 (1992). Absent relief from this Court, Petitioners' only avenue of recourse, the door will have been opened for future agency decisions pitting the Executive and Judicial Branches against

the will of the Congress in addressing one of the most critical environmental issues of our time.

Respectfully submitted,

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APPENDIX

APPENDIX A

No. 07-1363

United States Court of Appeals,
District of Columbia Circuit.
COUNTY OF ROCKLAND, NEW YORK, et al.,
Petitioner
v.
FEDERAL AVIATION ADMINISTRATION,
Respondent.
Nos. 07-1363, 07-1437, 07-1493, 07-1494, 07-1495, 07-1496, 07-1497, 07-1498, 07-1499, 08-1105, 08-1106, 08-1107.

June 10, 2009.
Rehearing En Banc Denied Aug. 19, 2009.

On Petitions for Review of an Order of the Federal Aviation Administration.

Before SENTELLE, Chief Judge, GINSBURG, Circuit Judge, and RANDOLPH, Senior Circuit Judge.

JUDGMENT

*1 These petitions for review were considered on the record from the Federal Aviation Administration and on the briefs and arguments of the parties. It is

ORDERED AND ADJUDGED that the petitions for review be dismissed insofar as the petitioners forfeited some of their challenges and otherwise denied for the reasons given in the attached memorandum opinion.

Pursuant to D.C. Circuit Rule 36, this disposition will not be published. The Clerk is directed to withhold issuance of the mandate herein until seven days after resolution of any timely petition for rehearing or petition for rehearing en banc. *See* Fed. R.App. P. 41(b); D.C.Cir. Rule 41.

MEMORANDUM OPINION

In a corrected Record of Decision (ROD) issued September 28, 2007 the Federal Aviation Administration adopted a multi-phase plan to modernize the New York/New Jersey/Philadelphia Metropolitan Area airspace. The redesign shifts flight paths, reallocates management of particular sectors of airspace amongst air traffic control facilities, and adopts new flight procedures. The changes will, the FAA determined, reduce delay and increase

operational efficiency, without imposing significant noise effects upon, or increasing air pollution in, the states below the NY/NJ/PHL airspace. The petitioners object to the FAA's analysis of environmental impacts as procedurally invalid and substantively unreasonable, in violation of the National Environmental Policy Act (NEPA), the Department of Transportation Act (DOT Act), and the Clean Air Act (CAA). We dismiss the petitions for review insofar as the petitioners forfeited some of their challenges and deny the rest of the petitions because the FAA's environmental impact analysis was procedurally sound and substantively reasonable.

I. NEPA

NEPA directs a federal agency to "include in every ... report on proposals for ... major Federal actions significantly affecting the quality of the human environment, a detailed statement ... on ... the environmental impact of the proposed action," 42 U.S.C. § 4332(2)(C)(i), known as an environmental impact statement (EIS). We review the FAA's compliance with NEPA for the most part under the arbitrary and capricious standard of the Administrative Procedure Act, asking whether the agency provided "the necessary process" and took a " 'hard look' at environmental consequences." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350, 109 S.Ct. 1835, 104 L.Ed.2d 351 (1989); *see Nevada v. Dep't of Energy*, 457 F.3d 78, 93 (D.C.Cir.2006). We address only a few of the petitioners' many objections

to the EIS. None of the petitioners' objections amounts to a significant procedural deficiency and none indicates that the FAA failed to take a "hard look" at the environmental impacts of its action. *See Cmtys. Against Runway Expansion v. FAA*, 355 F.3d 678, 685 (D.C.Cir.2004).

The petitioners first attack the FAA's forecast of future traffic. The agency's forecast is entitled to "even more deference" than this court gives "under the highly deferential arbitrary and capricious standard." *St. John's United Church of Christ v. FAA*, 550 F.3d 1168, 1172 (D.C.Cir.2008). The petitioners argue the FAA failed to consider reasonably foreseeable indirect effects of the redesign, as required by 42 U.S.C. § 4332(2)(C)(ii) and 40 C.F.R. § 1508.8(b), because the agency refused to adjust its forecast for the growth-inducing effect of reductions in flight delay. In the FAA's experience, however, airspace redesign, which increases throughput but not airport capacity, does not induce significant enough additional demand to warrant modeling. We have deferred to similar reasoning before, and we do so again here. *See City of Olmstead Falls v. FAA*, 292 F.3d 261, 272 (D.C.Cir.2002). The petitioners insist the FAA's reliance upon its experience ran counter to the evidence before it, but they point to statements of the agency that show nothing more than the possibility of another reasonable view; that is not enough to discharge their burden to show the FAA was arbitrary, *see City of Los Angeles v. FAA*, 138 F.3d 806, 808 (9th Cir.1998).

*2 Next, the petitioners change course, contending that once the FAA recognized it had overestimated future traffic, particularly at Newark International Airport, it should have adjusted the baseline for its environmental analysis. The FAA, however, took the requisite hard look by "creating its models with the best information available when it began its analysis and then checking the assumptions of those models as new information became available." *Village of Bensenville v. FAA*, 457 F.3d 52, 71 (D.C.Cir.2006). Although the agency found a 14% gap between its forecast of 2006 traffic on the average annual day at Newark and actual traffic there on the average day in 2005, it also found the overall forecast was well within the 10% margin of acceptable error the agency employs when deciding whether a forecast is useful for decision making. The FAA concluded the forecast, although not perfect, still "capture[d] the general flow and magnitude of the traffic in a way that can show differences among the proposed alternatives."

The petitioners' chief complaint is that the FAA's explanation is unreasonable because whether the redesign will reduce delay turns upon the forecast at Newark. As the FAA explains, however, although Newark will experience the greatest reduction in "block time"-which the petitioners erroneously treat as a reduction in delay-all the major airports in the region will experience reductions in delay. The petitioners' focus upon one data point for Newark is therefore based upon their having misunderstood the record before the agency. Given the substantial deference we owe the agency, *see St. John's*, 550 F.3d

at 1172, we cannot say its reassessment of the forecast was arbitrary and capricious.

In their final challenge to the FAA's traffic forecast, the petitioners argue the FAA should have forecast the impact of future traffic in 2012 and in 2017 because the agency "usually" forecasts such impacts for the "year of anticipated project implementation and [for] 5 to 10 years after implementation." FAA Order 1050.1E, Environmental Impacts: Policies and Procedures app.A § 14.4g(2) (Mar. 20, 2006). The FAA, however, need only select an "appropriate" timeframe for a forecast, *id.*, and the petitioners have not given us a reason to think the FAA, when it began the analysis in 2001, selected an inappropriate timeframe; nor have they shown that, once the FAA pushed back the date of implementation, it was arbitrary not to restart the analysis. The probability that air traffic will increase after 2011 does not show the FAA's decision to adopt the redesign with environmental mitigation measures was based upon an insufficient appreciation of the impact of the project.

The petitioners next complain the FAA should have produced a supplemental draft EIS (DEIS) because, they assert, the agency substantially changed the project at the eleventh hour when, after having issued the DEIS, it designed a noise mitigation measure routing flights over part of the Rockefeller State Park Preserve in New York. *See* 40 C.F.R. § 1502.9(c) (requiring supplemental DEIS whenever agency "makes substantial changes in the proposed action

that are relevant to environmental concerns"). As the FAA explains, however, it essentially readopted the pre-redesign flight path over the park, the noise impact of which had already been the subject of public comment when the agency assessed the no-action alternative. We defer to that reasonable explanation why no supplemental analysis was necessary. *See* *Marsh v. Or. Natural Res. Council*, 490 U.S. 360, 374-77, 109 S.Ct. 1851, 104 L.Ed.2d 377 (1989).

*3 One more NEPA challenge deserves mention: The petitioners argue the FAA failed to honor a commitment it made in the final EIS (FEIS) to institute a compliance monitoring program as part of its noise mitigation plan. In responding to a comment upon the Noise Mitigation Report, the FAA briefly stated the agency would adopt a compliance monitoring plan in the ROD. The FAA, however, never developed a detailed monitoring program as part of the FEIS, or specified one in its ROD, and the agency's stray comment was not a binding commitment to adopt such a program. Absent a firm commitment to such monitoring, neither NEPA nor the agency's regulations require it. *See* 40 C.F.R. § 1505.3 ("Mitigation ... and other conditions established in the [EIS] or during its review and committed as part of the decision shall be implemented"); Order 1050.1E § 512b ("Any mitigation measure that was made a condition of the approval of the FEIS must be included in the ROD"); *cf.* *Robertson*, 490 U.S. at 352 (NEPA does not impose "substantive requirement that a complete mitigation plan be actually formulated and adopted" before agency can act).

II. DOT Act

Section 4(f) of the DOT Act prohibits the Secretary of Transportation from adopting a "project ... requiring the use ... of a public park ... or land of an historic site" unless "there is no prudent and feasible alternative to using that land" and the Secretary has done "all possible planning to minimize harm to the park ... or historic site." 49 U.S.C. § 303(c). The prohibition of the Act extends to constructive use, including "noise that is inconsistent with a parcel of land's continuing to serve its recreational, refuge, or historical purpose." *City of Grapevine v. DOT*, 17 F.3d 1502, 1507 (D.C.Cir.1994). The FAA applied the guidelines contained in 14 C.F.R. pt. 150 and, as required by Order 1050.1E app.A § 6.2i, considered " [a]dditional factors" beyond the guidelines when assessing "the significance of noise impacts on noise sensitive areas." Based upon that analysis, the FAA concluded the redesign would not result in the constructive use of any § 4(f) property.

The petitioners argue the FAA's process of screening for potentially affected § 4(f) properties was procedurally defective and substantively inadequate because the agency did not consult all state and local park officials and did not give individualized attention to at least 236 properties the petitioners say may be affected. We dismiss this challenge as forfeit because

no one raised it during the administrative proceeding. *See* Olmstead Falls, 292 F.3d at 274.

With respect to properties that were the subjects of public comments, the petitioners argue the FAA violated § 4(f) and Order 1050.1E (1) by failing to conduct individualized analyses of certain properties they say are noise-sensitive and (2) by improperly analyzing noise impacts at another property. Because, however, the petitioners have failed to impugn the agency's screening methodology or to offer "a serious argument" that the FAA failed adequately to consider any property that may suffer a constructive use, we defer to the agency, *see* Town of Cave Creek v. FAA, 325 F.3d 320, 333 (D.C.Cir.2003).

*4 The petitioners also argue the FAA violated § 4(f) and 40 C.F.R. § 1506.6 by delaying additional noise impact analyses for several parks, which analyses were then summarized in, and appended to, the ROD without an opportunity for further public comment. Section 4(f) does not require such an additional process, however, and 40 C.F.R. § 1506.6(a) merely directs the agency generally to "[m]ake diligent efforts to involve the public in preparing and implementing [its] NEPA procedures." As indicated by the FAA's extensive public outreach effort and its thorough process of environmental review, the agency complied with the regulation. The petitioners cite Am. Bird Conservancy, Inc. v. FCC, 516 F.3d 1027, 1035 (D.C.Cir.2008), but that case is inapposite because in appending additional analyses to the ROD the FAA did

not "evade" implementation of any FAA regulation requiring additional notice or public comment.

III. Clean Air Act

The CAA requires a federal agency to determine whether a proposed federal project will conform to an applicable state implementation plan (SIP) adopted to achieve the Environmental Protection Agency's national ambient air quality standards (NAAQS). 42 U.S.C. § 7506(c). Pursuant to § 7506(c)(4)(A), the EPA has promulgated a General Conformity Rule that relieves a federal agency of the obligation to conduct a full-scale conformity determination if the project is not "regionally significant," 40 C.F.R. § 93.153(i)-(j), and if the project either will result in at most *de minimis* emissions of criteria pollutants, *id.* § 93.153(b)-(c), or comes within one of the categories in the agency's list of actions that are presumed to conform to any SIP, *id.* § 93.153(f)-(h). Because we hold the FAA reasonably concluded the redesign is exempt from a conformity determination under the *de minimis* exemption, we need not and do not reach the petitioners' challenge to the agency's having relied, in the alternative, upon its presumed-to-conform list, *see* Federal Presumed to Conform Actions Under General Conformity, 72 Fed.Reg. 41,565, 41,578 (2007).

In applying the *de minimis* exemption the FAA did not directly calculate the level of emissions resulting from the project, but rather relied upon a fuel burn analysis

that showed the redesign will "reduce fuel consumption by just over 194 metric tons per day" in the study area. Because reducing fuel consumption reduces aircraft emissions, the FAA concluded the redesign will reduce emissions in the study area. As the agency sensibly reasoned, a project that *decreases* emissions cannot cause a more than *de minimis* (if it could cause any) *increase* in emissions or be otherwise regionally significant; therefore, it did not conduct a conformity determination.

The petitioners' main contention is that, notwithstanding the result of the fuel burn analysis, the FAA had to calculate "the total of direct and indirect emissions" resulting from the project, 40 C.F.R. § 93.153(c)(1), and compare that total to thresholds identified by the EPA, *id.* § 93.153(b); *see also* Order 1050.1E app.A § 2.1c. According to the petitioners, the fuel burn analysis cannot show the redesign will reduce emissions because it does not account for the possibilities that the redesign will increase (a) emissions from airport ground equipment and (b) emissions of some pollutants due to changes in aircraft speed. Therefore, the petitioners argue, only by preparing an inventory of emissions could the FAA determine that emissions will not be significantly increased by the redesign.

*5 Assuming the agency erred when it failed to inventory emissions, the petitioners still have failed to identify any way in which the error was or might have been harmful. *See* 5 U.S.C. § 706 ("due account shall

be taken of the rule of prejudicial error" when court reviews agency action). As the FAA explains, by reducing idling and taxiing, and thus reducing the time aircraft run their engines at or near ground level, the redesign will reduce the emissions most likely to have an effect upon local air quality. The agency did not need to quantify the reduction in order to conclude the redesign was exempt from a conformity determination. We therefore deny the petitions for review with respect to the petitioners' core challenge to the fuel burn analysis. *See Olmstead Falls*, 292 F.3d at 271 (even if FAA erred, "the burden is on petitioners to demonstrate that [the FAA's] ultimate conclusions are unreasonable").[1]

We have considered and found no merit in the petitioners' other arguments. Based upon the foregoing opinion, the petitions for review are dismissed in part and denied in part. The pending motions for judicial notice and for supplementation of the administrative record are dismissed as moot.

So ordered.

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[1] The petitioners also argue the fuel burn analysis failed to show the redesign will reduce emissions in all relevant nonattainment and maintenance areas, *see* 40 C.F.R. § 93.153(b), but that argument is not properly before us because the petitioners failed to raise it until their reply brief, *see Sitka Sound Seafoods, Inc. v. NLRB*, 206 F.3d 1175, 1181 (D.C.Cir.2000).

APPENDIX B

Record of Decision

New York/New Jersey/Philadelphia Metropolitan Area Airspace Redesign

[*Federal Aviation Administration logo omitted*]

September 5, 2007 (Issue Date)
September 28, 2007 (Corrected Version Date)

U.S. Department of Transportation
Federal Aviation Administration

[i]

This is a copy of the corrected Record of Decision (ROD) for the New York/New Jersey/Philadelphia (NY/NJ/PHL) Metropolitan Area Airspace Redesign. Please take notice that this is a corrected ROD and all references should be made to this document. On September 5, 2007, the FAA signed and issued its ROD for the NY/NJ/PHL Airspace Redesign project. After signing the ROD, the FAA identified several items in the document that were omitted or incorrect due to editing mistakes. As a result, on September 18, 2007, the FAA posted an Errata Sheet on its website. For clarity and ease in reference, the FAA subsequently incorporated all the corrections from the errata sheet into this corrected ROD. No changes were made to the corrected version of the ROD other than what was identified in the Errata dated September 14, 2007. Please note, however, that page 56 of the corrected ROD states that there are "six" states within the Study Area. There are five states in the Study Area. If you would like to see a copy of the signed ROD as posted on September 5, 2007 or the Errata Sheet, both documents are available on the FAA's Airspace Redesign website, www.faa.gov/nynjphl_airspace_redesign

[ii]

ERRATA

The following errors were identified in the Final Environmental Impact Statement (FEIS) following printing and distribution of the document.

1. FEIS ES-1, footnote 1 provides an incorrect reference to NEPA. The correct cite is 42 U.S.C. §4321 et. seq.

2. FEIS 2-1 references the relevant CEQ regulation as 40 CFR 1502.1(c). The text should be revised to reference 40 CFR 1502.14(c).

3. FEIS 3-1, footnote 1 references June 8, 2004 version of FAA Order 1050.1E. Correct reference is FAA Order 1050.1E Change 1 (March 20, 2006).

4. FEIS at 5-136 incorrectly references the cumulative impact discussion as Section 4.17 of the FEIS. The cumulative impact discussion is set forth in the FEIS at Section 4.18.

5. FEIS Chapter 7 (List of Acronyms, Abbreviations and Glossary of Terms in this EIS) inadvertently omits "ADD Average Annual Day" and "ADT Airspace Design Tool." These abbreviations and their meanings should be added into the list.

[iii]

Table of Contents Omitted

[iv-v]

Table of Appendices Omitted

[1]

I. Introduction

This Record of Decision (ROD) represents the culmination of over nine years of study and evaluation by the FAA to address congestion and delays at some of our nation's busiest airports. This document sets forth the agency's final decision to approve the project to redesign the airspace in the New York/New Jersey/Philadelphia (NY/NJ/PHL) Metropolitan Area. This Airspace Redesign Project is critical to enhance the efficiency and reliability of the airspace structure and the Air Traffic Control (ATC) system for pilots, airlines, and the traveling public. It is needed to accommodate growth while enhancing safety and reducing delays in the NY/NJ/PHL Metropolitan Area. Most importantly, the Airspace Redesign Project modernizes the structure of the NY NJ PHL air traffic environment in an environmentally responsible manner, and lays a foundation for achieving the Next Generation Air Transportation System in 2025. By 2011 this project is predicted to reduce the number of people exposed to noise above 45 dB DNL noise levels by 619,023 people, reduce fuel burn and emissions by the airlines, and reduce delays by 20%.

This ROD is based upon an Environmental Impact Statement (EIS) prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as implemented by Council on Environmental Quality (CEQ) regulations, 40 C.F.R. 1500 et seq., and FAA Order 1050.1E Change 1, Policies and Procedures for Considering Environmental Impacts. In this document, the FAA discusses the reasons it decided to undertake the Airspace Redesign project, the alternatives it considered in accomplishing its objectives, and the environmental impacts including mitigation of the alternatives it considered. This ROD includes additional information about steps taken to assure compliance with Department of Transportation Section 4(f), Section 106 of the National Historic Preservation Act, and Section 7 of the Endangered Species Act. Finally, the ROD contains a discussion of the selected project and the reasons for its selection.

After a careful consideration of all the available information, the FAA has decided to select the mitigated Preferred Alternative, known as the Integrated Airspace Alternative with Integrated Control Complex (ICC). The selected project consolidates many sectors of airspace under one Air Route Traffic Control Center (Center) and represents an innovative approach to airspace design in the NY/NJ/PHL area. The ICC uses of the 3 nautical mile separation criteria for flights in terminal airspace rather than the standard 5 mile criteria for en route airspace over a larger geographic area and up to 23,000 feet above mean sea level in some areas. The airspace will incorporate the sectors of airspace currently handled by the NY Terminal Radar

Approach Control facility (TRACON) and the NY Center as well as some handled by the Washington and Boston Centers.

In addition to reconfiguring the airspace to implement the selected project the FAA will take several other direct actions to take advantage of improved aircraft performance and emerging air traffic control (ATC) technology. As part of the selected project the FAA will design new and modified ATC procedures, modify multiple departure gates and add arrival posts, and departure headings. Mitigation measures include use of fewer dispersal headings at times of lower volume, use of continuous descent approaches, and raising arrival altitudes.

[2]

The selected project will require installation of additional equipment in FAA facilities to provide a common automation platform and communications network. However, it does not require any external physical changes to existing facilities, construction of new facilities, or local or state actions. Although the nomenclature "Integrated Airspace Alternative with Integrated Control Complex (ICC)" might suggest otherwise, the shared platform needed for the ICC can be established within existing facilities. The proposed replacement of the NY TRACON building would facilitate implementation of the ICC, however the TRACON replacement project has independent utility. Approval of the Airspace Redesign project does not depend upon replacement of the TRACON. Therefore, the selected project requires no physical alteration to

any environmental resource or permits/licenses. Additionally, the Airspace Redesign does not require changes to any Airport Layout Plan.

II. Background

We know from experience and from economic studies how vital Newark Liberty, La Guardia, Kennedy and Philadelphia Airports are to the region. Domestic air carriers have built thriving international hubs at three of these airports, connecting their international services to a network of domestic routes that allows service to even more international locations. Foreign air carriers provide non-stop service to destinations as close as Toronto, and as far away as Singapore. Activity by low-cost carriers continues to grow at these airports, and the traveling public in the area continue to have an unparalleled choice of non-stop service to cities around the world. As this aviation growth so essential to the region was happening, we made the airplanes quieter, and minimized their impact upon people living below, but we did not make more efficient use of the sky above. It is the FAA's judgment that the continued health of the aviation industry is dependent upon the modernization actions contained in the preferred alternative as mitigated, that will bring 21st century efficiencies to this vital component of the region's economy.

It is often said that the airspace in the New York/New Jersey/Philadelphia area is some of the most complex anywhere in the world. Throughout the EIS and in other parts of the administrative record, there are many charts and diagrams using the latest graphic

technology to depict flight paths, arrival fixes, departure gates and the whole panoply of air traffic concerns in the region. Even these visual images, though more effective than words, fail to depict fully the complexity and interdependences that these different procedures have on each other. One way to grasp the complexity of the problem and the delicacy of the limited options available as potential solutions is to observe, on a delayed but real time basis, the radar tracks of aircraft landing and departing at Newark Liberty, La Guardia, Kennedy, and Philadelphia, over the internet. For the New York/New Jersey area, the best platform is www4.passur.com/lga.html set to a 40 mile range, and for Philadelphia, the helpful website is www4.passur.com/phl.html. Observers can see, for example, how only a few miles separates the streams of arrivals at Newark and La Guardia, how southbound La Guardia departures are "climbed over" Newark Arrivals, and how the approach path to La Guardia can depend in part on runway use at Kennedy. Throughout all of this, the FAA's primary goal is one of safety, which is why there are so many delays using today's air navigation system in this airspace.

[3]

The basic air traffic environment for the New York/New Jersey/Philadelphia (NY/NJ/PHL) Metropolitan Area airspace was designed and implemented in the 1960s. While FAA made some adjustments to that airspace in the mid-1980's, as part of the Expanded East Coast Plan, the basic structure

of the NY/NJ/PHL airspace has remained largely the same since the 1960s. In contrast, the use of the airspace and the Air Traffic Control system has changed significantly. The volume of air traffic has increased significantly since the 1960s, as has the use of smaller and regional jet aircraft in the ATC system. Additionally, the NY/NJ/PHL airspace has seen radical growth at airports that once had lower volume, such as Newark Liberty International Airport. The basic structure of the NY/NJ/PHL airspace, however, has essentially remained the same and has not been adequately modified to address changes in the aviation industry, including increasing traffic levels and use of new types of aircraft. Therefore, the NY/NJ/PHL Airspace Redesign is needed to accommodate growth while maintaining safety and mitigating delays, and to accommodate changes in aircraft fleet mix using the system (e.g., increased use of smaller and regional jet aircraft). The purpose of the Airspace Redesign is to increase the efficiency and reliability of the airspace structure and ATC system to accommodate growth while enhancing safety and reducing delays in air travel.

As the agency responsible for managing the National Airspace System (NAS), the FAA continuously seeks ways to control air traffic more efficiently. In 1998, the FAA Administrator chartered the National Airspace Redesign as the primary means of modernizing the nation's airspace. The National Airspace Redesign was to take advantage of opportunities arising from new technologies, new aircraft equipage, improved infrastructure, and procedural developments to enhance safety and efficiency. From the beginning,

the importance of the New York/New Jersey Philadelphia area was recognized. This airspace formed the northeast corner of the "Eastern Triangle" where the first redesign efforts were focused.

The current delay performance of the airspace around the New York/New Jersey and Philadelphia Metropolitan Areas illustrates the need for redesign. The Bureau of Transportation Statistics collects information on major airport on-time arrival performance. For the first quarter of 2007, out of their list of 32 major airports[1],

- Newark was the top-delayed, with 55% on time performance;
- LaGuardia was second from the top, 58% on time performance;
- JFK was fourth from the top, 60% on time performance;
- Philadelphia was fifth from the top, 65% on time performance.

The only airport in the top five as of the first quarter of 2007 that is not in this study area is Chicago-O'Hare International Airport. Airports in the NY/NJ/PHL Metropolitan Area are routinely among the top 10 most delayed airports in the nation. Of all the factors in the system that can cause delays, these airports have only one in common. Some are dominated by one

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[1] http://www.bts.gov/programs/airline_ontime_tables/2007_03/html/table_04.html

or two carriers and others are not. Some have many foreign airlines,

[4]

others have few. Some support hub-and-spoke operations and others do not. Some have very large aircraft, others have mostly smaller aircraft. Some are large, with long taxiways, others are small and cramped. At some, the traffic has grown substantially in recent years, at others it has not. The thing these airports have in common is the airspace used by their arrivals and departures. To solve the delay problem, the airspace must be addressed.

The Study Area for the project consists of the geographic area in which natural resources and the human environment are potentially affected by the proposed action, reasonable alternatives, and proposed mitigation. The Study Area was defined to include the areas underlying proposed changes to aircraft routes below 14,000 feet above mean sea level (MSL). According to FAA Order 1050.1E, the altitude ceiling for noise environmental considerations regarding airspace studies is 10,000 feet above ground level (AGL). The point at the highest altitude of the area where proposed airspace changes would occur was Hunter Mountain, New York at 4,000 feet above MSL. As a result, the overall altitude ceiling of the Study Area was 14,000 above MSL (resulting in 10,000 feet AGL). The Study Area includes the entire state of New Jersey, and portions of Connecticut, Delaware, New

York, and Pennsylvania, an area of approximately 31,180 square miles. Section 3.1.1 of the Final EIS contains a more specific description of the Study Area.

The Study Area contains numerous public and privately owned airports. It would have been extremely difficult and unwieldy to include all of the airports in the Study Area in the analysis. The airspace design planning and environmental review process focused heavily upon the eight airports that were likely to be most affected by proposed airspace changes. These are: LaGuardia Airport (LGA), John F. Kennedy International Airport (JFK), Newark Liberty International Airport (EWR), Teterboro Airport (TEB), Philadelphia International Airport (PHL), Morristown Municipal Airport (MMU), Islip Long Island MacArthur Airport (ISP) and White Plains/Westchester County Airport (HPN). Airports that had more than 20 Instrument Flight Rule (IFR) operations on an average day were also included in the focused analysis. Airports with fewer than 20 IFR average annual day operations would have little impact on design elements or noise impacts in the study area. The thirteen additional airports that were included in the focused analysis are:

- Allentown/Lehigh Valley International (ABE)
- Atlantic City International (ACY
- Bridgeport/Igor I. Sikorsky Memorial (BDR)
- Caldwell/Essex County (CDW)
- Westhampton Beach/The Francis S. Gabreski (FOK)
- Linden (LDJ)
- Newburgh/Stewart International (SWF)

- New Haven/Tweed-New Haven (HVN)
- Northeast Philadelphia (PNE)
- Republic (FRG)

[5]

- Trenton/Mercer County (TTN)
- Wilmington/New Castle County (ILG)
- McGuire Air Force Base (WRI)

To plan airspace redesign, the FAA undertook an extensive study. Technical specialists with in-depth knowledge of regional ATC issues evaluated the existing airspace structure, ATC procedures and routes, and the interaction of local air traffic with the NAS as a whole. The result of this team's effort is set forth in the EIS and supporting documentation in the administrative record.

Implementation of the Selected Project

This redesign project is very large and complex. We will begin implementation as soon as practicable. Implementation of the selected project is estimated to take five years. The implementation of the selected project contains several qualitatively different stages.

The first stage involves elements of the selected project that do not require large-scale changes to other parts of the system. These items may be implemented without changes to the current airspace structures or operations of neighboring facilities.

- Right turns for departures off Runway 31R at JFK
- Departure dispersal headings at EWR, PHL and LGA
- RNAV overlay procedures for TEB departures and approaches
- RNAV overlay for PHL river visual approach
- Develop an additional parallel airway to Jet Route 80
- A third westbound departure fix for PHL
- RNAV overlay for LGA Localizer Type Directional Aid (LDA) approach to Runway 22
- RNAV fix on the VOR 13L/R and 13L/R visual approaches to JFK

The next stage of implementation entails the integration of the terminal and en route airspace. At some point in this phase, we will address the NY TRACON and NY Center facility airspace structure will be addressed. This phase also concerns no change to the current airspace structures or operations of neighboring facilities. Aspects of the second phase include:

- Expanding the use of terminal separation rules
- Expanding the west gate for NY departures
- Opening the west gate for JFK departures
- Allowing stacked departures at the departure fixes
- Providing flexible use of the arrival airways
- Establishing a new arrival route into PHL

The next stage requires changes at other facilities, such as resectorization or shifting boundaries, but no changes to the current operational structure.

[6]

- Adding a third airway to the north gate

The remaining stage of implementation requires changes at facilities. This may include transfer of sectors as well as operational changes for the neighboring facilities. Aspects of the final stage of implementation include:

- Creating a new jet airway for departures to the west
- Enabling dependent instrument arrivals to the parallel runways at EWR and the required shift of the arrival streams into the NY/NJ area
- Creating a south gate for departures out of the NY/NJ area

III. Purpose and Need

The FAA's first consideration and highest priority in defining the Purpose and Need for any proposed action is to serve the public interest by exercising its authority to assign, maintain, and enhance safety and security of the national airspace (49 U.S.C. §40101(d)). The FAA also has the statutory responsibility to manage the use of navigable airspace to assure safety and efficiency. (49 U.S.C. §40103).

A. Need for the Project

As noted, congestion and delays at airports in the NY/NJ/PHL Metropolitan Area are some of the worst in the country and aircraft operations are forecast to continue to grow. In considering the need for an Airspace Redesign project, the FAA looked at the increase in traffic levels, safety, delays, and changes in the types of aircraft using the NAS.

1. Increased Aircraft Traffic Levels

Aircraft operations in the Study Area are growing despite the operational delays experienced by aircraft operators. Instrument operations[2] at most of the major airports in the Study Area have increased. See FEIS, Table 1-3. Dramatic increases have occurred at Newark (EWR), Philadelphia (PHL), and Teterboro (TEB) and these increases are forecast to continue. Current traffic at JFK has increased 44% from the year of 2004.[3] Inefficiencies due to the inherent limitations of the existing airspace design, including route structure and ATC procedures, will be exacerbated by growth in air traffic operations. For example, in 2006 the NY TRACON handled 2,090,977 operations and is expected to handle 2,400,143 operations by 2011. FEIS at 1-23. As traffic increases,

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[2]Commercial operators and operators of certain large aircraft, e.g., business jet aircraft, are required to operate under Instrument Flight Rules. Additionally, many aircraft that are not required to operate under IFR choose to do so because of the air traffic services it provides.

[3]FAA OPSNET Data

the system will become increasingly inefficient and unreliable (unpredictable in terms of

[7]

scheduling) in order to ensure safe operations. The following inefficiencies must be addressed in order to accommodate growth that will occur with or without the project:

- Access to en route airways is restricted by downstream congestion.

- EWR and LGA final approach courses are restricted and do not allow for optimal aircraft sequencing to the runways.

- Airspace sectors are currently associated with specific airports which cause an unbalanced use of the airspace, thus requiring excessive communications between controllers.

- Westbound departures from JFK create delays for westbound departures from EWR and LGA due to in-trail sequences.

- NY Metropolitan Area departures to north departure gate fixes are restricted due to inefficient airspace allocation.

- Arrivals to PHL are directed to lower altitudes to maintain separation from arrivals to the NY Metropolitan Area.

The airspace must accommodate growth in air traffic. To accommodate growth, the enhanced airspace system must maintain the current high level of safety and mitigate delays.

2. Safety

As noted above, the FAA has the statutory responsibility to control the use of navigable airspace in the interest of safety and efficiency. The following safety-related inefficiencies currently exist in the NY/NJ/PHL Metropolitan Area airspace:

- Arrivals to Westchester County Airport (HPN) from the south cross several traffic flows and create unnecessary complexity.

- Arrivals for airports to the north of the Study Area must be assigned high altitudes to avoid conflicts with the NY Metropolitan Area traffic. This creates the need to cross several traffic flows in a short distance while descending.

- Traffic to PHL, Islip (ISP), and their associated satellite airports[4] is restricted to intersecting courses in narrow corridors of airspace.

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[4]PHL satellite airports include Chester County, Brandywine, New Garden, Wings Field, Northeast Philadelphia, Doylestown, Pottstown Limerick, and Capital City Airports. ISP Satellite airports include Brookhaven, Spadaro, Francis S. Gabreski, Republic, and Montauk Airports. Source: NPIAS 2005-2009.

[8]

- Airspace restrictions require incremental changes in altitude for arrivals and departures causing radio frequency congestion associated with additional control instructions.

- Departures from EWR to the Caribbean and South America must climb through PHL and Atlantic City (ACY) traffic resulting in traffic conflicts.

- High-performance general aviation aircraft operating out of satellite airports are restricted to less efficient altitudes below major airport flows. This creates increased controller workload to resolve traffic conflicts.

- Departures from ISP and ISP satellite airports to the south/southwest conflict with arrivals to the NY Metropolitan Area and northeast-bound departures from PHL.

Addressing the safety-related inefficiencies will contribute to enhanced safety in light of the growing traffic.

3. Delays

Delays affect aircraft operators with increased fuel use and operating costs, which are passed on to consumers in the form of higher ticket prices. Delays also impact the public by causing inconveniences with late arrivals, missed connections, and cancelled flights.

The public expects a stable and reliable aviation system that supports on-time flights. People have dramatically increased their use of aviation as a mode of travel and increasing delays continue to receive much public attention. Delays are expected to increase in the future as traffic levels continue to grow. These issues prompted the airline industry and the Federal government to search for ways to reduce delays. The current basic airspace structure was designed and implemented in the 1960s, based on the interaction of independent TRACONs and several overlying Centers.[5] Today, the airspace system cannot efficiently handle the current and projected levels of traffic within the NY/NJ/PHL Metropolitan Area. In 1988, when the last large-scale airspace changes were made, the New York TRACON alone managed approximately 1,710,000 operations annually. In 2006, the New York TRACON handled 2,090,977 operations. By the year 2011, the traffic level is projected to increase to 2,400,143[6] annual operations. The increasing traffic levels result in excessive user delays and inefficient routes. Between 2000 and 2006, total aircraft delays at TRACONs and Centers in the Study Area have increased dramatically. In addition, airports in the NY/NJ/PHL Metropolitan Area are routinely among the top 10 most delayed airports in the nation, due in part to the inefficiencies of the current airspace structure.

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[5]See FEIS sections 1.2.1 – 1.2.3 for a discussion of the NAS and a description of the types of ATC facilities

[6]FAA APO Terminal Area Forecast Issued December 2006.

The following are among the causes for delay in the existing NY/NJ/PHL Metropolitan Area airspace:

[9]

- Aircraft departing from the NY Metropolitan Area to the Washington Metropolitan Area are sequenced onto the same routes as long-haul destinations (e.g., Los Angeles).

- Entering and exiting holding patterns in en route airspace are inefficient because more restrictive en route separation rules are used and require extensive coordination.

- Chicago O'Hare International Airport (ORD) is one of the busiest airports in the nation and experiences significant delays. Because of the inflexibility of the current airspace structure, the in-trail restrictions placed on the ORD departures end up affecting all of the westbound departures from the New York/New Jersey/Philadelphia metropolitan areas routed over the same departure fix regardless of the destination airport.

- Aircraft departing from LGA and HPN have poor access to departure routes during severe weather conditions.

- Severe weather that occurs during periods of heavy traffic reduces flexibility for aircraft rerouting resulting in delays.

- During peak demand periods individual arrival fixes can become saturated while other arrival fixes are under used.

The Airspace Redesign is needed to address the system inefficiencies that cause delay.

4. Changes in Type of Aircraft

The mix of types of aircraft used by domestic air carrier and general aviation operators has changed rapidly over the past decade. Regional airlines have replaced propeller driven aircraft with regional jets in response to consumer preferences and to begin service to new markets. Mainline air carriers have transitioned service on some routes from larger narrowbody aircraft to smaller regional jets because of the lower operating costs for regional jets. The net effect of these changes is that the same numbers of passengers are being transported with a higher number of operations by smaller aircraft. Additionally, there has been an increase in the use of private jets. The convenience of business jets, e.g., avoiding security delays and freedom to set one's own flight schedule, has encouraged many corporate travelers to increase their use of business jets. Fractional ownership programs have put the ability to use business jets into the hands of many more people. These factors have placed new strains on the NAS by increasing the number of high performance jets vying for the same routes and altitudes. Previously there were substantial numbers of propeller-driven aircraft operating at lower altitudes on separate routes. This

increasing number of jets has resulted in a saturation of jet routes.

B. Purpose of the Project

The purpose of Airspace Redesign is to increase the efficiency and reliability of the airspace structure and ATC system, thereby accommodating growth while enhancing

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safety and reducing delays in air travel. By taking advantage of new technologies and responding to new trends, the Airspace Redesign will increase efficiency and the reliability of the air traffic system.

A nationwide study conducted by Logistics Management Institute (LMI) in 1999 found that air traffic congestion nationwide could cost 46 billion dollars to the nation's economy in 2010 because of increased travel time. The nationwide change in travel time that was anticipated for 2010, converted to its equivalent in terms of the metrics used for this study, is approximately 3 minutes per flight. This includes costs to airlines, loss of service to people who wish to travel, and over 200,000 lost jobs in aviation and other industries. The NY/NJ/PHL airspace will handle 15-20% of all the air traffic in the nation in 2011. This airspace redesign is concerned with removing inefficiencies. Enhancing efficiencies would, conservatively estimated, yield benefits to airlines, passengers, and businesses of $7 billion to $9 billion in 2011.

Air traffic delays also increase costs associated with providing air traffic control services. Additional air traffic control staffing is needed during periods when there are air traffic delays. Analyzing FAA's delay summary report over the past two years for JFK, LGA, EWR and PHL, it is estimated that delays at these four airports alone cost $30.5 million.

The Airspace Redesign is also needed to accommodate changes in the fleet mix using the system (e.g., increasing numbers of smaller and regional jet aircraft). These needs are tied to the fundamental purpose of the Airspace Redesign: to increase the efficiency and reliability of the airspace structure and ATC system in the study area.

Noise reduction is not a Purpose and Need for Airspace Redesign. In the case of the national airspace redesign (NAR), reduction of noise is not appropriately identified as a Purpose. Airspace redesign can not remedy noise problems for the 29 million people living in the study area. In fact, for many people within 10 to 15 miles of the airport, depending on where they live in relation to the runway alignments, there may be little or no mitigation possible and no noise benefits possible. Additionally, in heavily populated areas, such as those surrounding Philadelphia, Newark, LaGuardia, and Kennedy Airports, mitigation of noise in one neighborhood usually means moving the noise to another neighborhood, not moving it to an unpopulated area. Moreover, it is unclear how noise reduction should be defined where noise is predicted to increase and decrease over large populated areas experiencing different noise levels. Although reduction

of noise is not included in the Purpose and Need, the FAA recognizes that aircraft noise was the major issue raised in agency and public comments throughout the EIS process. During the scoping meetings held in 1999 and 2001, the FAA committed to using the various techniques to reduce aircraft noise and other potential environmental impacts. Thesetechniques included increasing altitudes, dispersing or concentrating tracks where appropriate, reducing flying time, and routing aircraft over less noise-sensitive areas where feasible.

[11]

IV. Alternatives Analysis

CEQ regulations require the FAA to "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." 40 C.F.R. §1502.14(a). In addition to a No Action alternative, as required by the CEQ regulations, 40 C.F.R. §1502.14(d), the FAA developed five categories of alternatives and evaluated them against the purpose and need for the project. Those categories of alternatives that did not satisfy the purpose and need for the project were not considered reasonable alternatives and were eliminated from detailed analysis. The categories of alternatives considered in the initial screening of alternatives in the EIS included the following:

- Alternative Modes of Transportation and Telecommunication—Using alternative modes of transportation and communication including travel by rail, bus, and automobile, as well as the use of telecommunication methods such as videoconferencing.
- Changes in Airport Use—Moving operations to satellite airports or improving infrastructure of existing airports.
- Congestion Management Programs—Regulating air travel demand by limiting flight operations. Three major congestion management techniques are administrative approaches, voluntary de-peaking, and market based-approaches.
- Improved Air Traffic Control Technology—Using newly developed air traffic control technologies.
- Airspace Redesign Alternatives—Creating restructured airspace routes, altitudes, and sectors.

A. Alternative Categories Eliminated from Detailed Study

In determining the reasonable alternatives for the project, the FAA looked at the categories of alternatives to determine whether each would meet the purpose and need for the Airspace Redesign project. Those categories of alternatives that did not meet the purpose and need for the project were eliminated from detailed study in the EIS. Four of the categories of alternatives, Alternative Modes of Transportation and Technology, Changes in Airport Use, Congestion Management Programs, and

Improved Air Traffic Control Technology, were eliminated because they did not meet the purpose and need of the Airspace Redesign project. While the Alternative Modes of Transportation and Technology (Section 2.3.1), Changes in Airport Use (Section 2.3.2), Congestion Management Programs (2.3.3), and Improved ATC Technology (2.3.4) categories of alternatives may have had the potential to decrease delays they would not have addressed the inefficiencies in the current NY/NJ/PHL Airspace. Because these alternatives did not meet the purpose and need for the Airspace Redesign project, they were not considered reasonable alternatives and were not carried forward for detailed environmental analysis.

B. Alternative Concepts Considered for Detailed Analysis

[12]

Of the five categories of alternatives, one, Airspace Redesign, was found to meet the purpose and need for the Airspace Redesign project, and was carried forward for detailed analysis in the EIS. Additionally, as required by the CEQ regulations, the No Action Alternative was carried forward for detailed study.

Airspace in the NY/NJ/PHL Metropolitan Area could be redesigned by changing or enhancing departure gates, arrival posts, routes, and/or the airspace boundaries of the various ATC facilities. For the Study Area under examination, new departure gates and arrival posts would permit the development of new

routes in the airspace structure. Expanding the boundaries of the terminal airspace environment would permit less restrictive separation rules to be used in a larger volume of airspace. These actions have the potential to meet the need to accommodate growth in air traffic levels while maintaining safety and mitigating delays. New routes could add efficiency by reducing delays and providing more direct routings; this has the potential to achieve the purpose of increasing the efficiency and reliability of the airspace structure and ATC system. The FAA began consideration of airspace and ATC changes by analyzing potential airspace redesign alternatives for the NY/NJ/PHL Metropolitan Area airspace. A working group was formed to design and evaluate conceptual airspace alternatives. The working group included representatives from the affected facilities: NY TRACON, Philadelphia TRACON, New York Center, Boston Center, and Washington Center. The working group also included representatives from ATC facilities outside the Study Area to ensure the alternatives developed would be compatible with airspace requirements in those facilities. Also as part of the development of redesign concepts, input from external sources such as airlines, airport operators and the public was solicited and considered.

The working group developed assumptions and objectives for airspace redesign alternatives. The assumptions included point-to-point navigation and use of terminal separation standards over a larger airspace area. The objectives that guided the development of airspace redesign concepts were:

- Reduce congestion in airspace sectors
- Shorten routes
- Segregate routes for aircraft with dissimilar operating characteristics (i.e., large aircraft from small aircraft)
- Impose fewer climb restrictions on departing aircraft and keep arrivals higher longer
- Allow aircraft to operate at higher, more fuel-efficient altitudes for longer periods
- Use area navigation (e.g., RNAV, GPS, etc.)
- Create a flexible airspace structure
- Accommodate projected growth
- Reduce environmental impacts, where possible

Using the assumptions and objectives, the working group developed broad concepts that met the design objectives: the Four Corner-Post, Modifications to Existing Routing, a Clean Sheet approach. Additionally, the working group considered an Ocean Routing concept submitted by New Jersey Citizens for Environmental Research (NJCER) at the request of the New Jersey Coalition Against Aircraft Noise (NJCAAN).

[13]

After further consideration, the working group determined that the Four Corner-Post was a concept ill-suited to the NY/NJ/PHL Metropolitan Area airspace (Section 2.4.1.1) and was eliminated from further consideration because it did not meet the purpose and need of the airspace redesign project. Two of the remaining design concepts, modifications and clean sheet, would meet the purpose and need and

were studied in detail in the EIS. Although Ocean Routing did not meet the purpose and need, it was studied in detail in order to address the long-standing concerns of NJCAAN.

Modifications to Existing Routing
This concept involves modifying the current route and procedures to improve efficiency in the current airspace.

Ocean Routing
This alternative routes all departing flights from EWR over the Raritan Bay to the Atlantic Ocean before turning them back over land to head to their departure gates. The Ocean Routing alternative does not meet the purpose and need for the airspace redesign project. It is designed is to reduce noise impacts on the citizens of New Jersey, and would not increase the efficiency and reliability of the NY/NJ/PHL Metropolitan Area airspace. Because all EWR departures would use the same departure route, this alternative would inherently result in a large increase in airport departure delay. While Ocean Routing does not meet the purpose and need for the project, the FAA elected to retain it for detailed analysis because of the long-standing concerns of NJCAAN.

Clean Sheet Concept
The Clean Sheet approach began as an attempt to redesign the airspace in an atmosphere independent of existing routes. Designers were given a clean sheet of paper and were asked to design the most efficient airspace structure for the study area without reference to current procedures, departure gates, and arrival

posts. It was initially explored as a concept that would be developed within the boundaries of the current NY Center and NY TRACON airspace. Any changes within this airspace would not require changes in adjacent Center's or TRACON's airspace. The working group discovered that the constraints of the NY Center's and NY TRACON's airspace boundaries did not facilitate the use of the clean sheet approach. This alternative, therefore, evolved into an integrated airspace concept that used some of the initial design elements of the Clean Sheet "Area Concept," and then added elements that more efficiently integrated the functions of the NY TRACON and NY Center to operate more seamlessly in either a standalone or consolidated manner. Therefore, a detailed airspace redesign alternative was developed based on the Integrated Airspace Concept.

C. Alternatives Analyzed in the EIS

After the working group validated the airspace redesign concepts, it developed detailed alternatives for the Modifications and Integrated concepts. The detailed alternative for Ocean Routing was developed by NJCER. The working group also developed criteria to evaluate the degree to which the alternatives met the purpose and need and to permit the

[14]

comparison of the alternatives to each other. These criteria fall into two groups, operational viability and operational efficiency. The operational viability criteria consider whether a particular airspace

redesign is workable and thus, safe. The criteria include:

- Reduce airspace complexity
- Reduce voice communications

The operational efficiency criteria consider how well a particular design works. The criteria include:

- Reduce delay
- Balance controller workload
- Meet system demands
- Improve user access to the system
- Expedite arrivals and departures
- Increase flexibility in routing
- Maintain airport throughput

1. The Alternatives

No Action Alternative

The No Action alternative represents all major traffic flows into and out of the Study Area in the study years 2006 and 2011 if no changes are implemented as a result of the Airspace Redesign project. The only major difference between this alternative and present day operations will be the type and quantity of aircraft operations. Under the Future No Action Airspace Alternative, the airspace will operate as it did during existing or baseline conditions (2000), with the exception of two procedural changes (i.e., the Dual Modena and the Robbinsville-Yardley Flip-Flop) that have been implemented and have independent utility with regards to the Airspace Redesign, see Section 1.2.6. As these changes have been implemented, they

are included as part of the Future No Action Airspace Alternative. Figures 2.1 through 2.10 in Appendix A to this ROD identify existing major routing and flow patterns associated with the Future No Action Airspace Alternative.

Modifications Alternative

The Modifications alternative includes minor modifications to the current airspace and routing, improving operations as much as possible within the limitations of the current ATC facility boundaries. Figures 2.11 through 2.14 in the Final EIS identify major routing changes associated with the Modifications alternative. The table below summarizes the Modifications alternative.

[15]

Table 2.1
Summary of Modifications to Existing Airspace Alternative

Airport	Changes from Future No Action
JFK	No Changes
LGA	South departure gate shifted to the northwest New departure headings for aircraft departing Runway 4 to the North departure gate New propeller aircraft procedures departing Runway 13 to West departure gate

	New departure headings for propeller departing Runway 13 to the South departure gate New distant procedures for aircraft departing Runways 4 and 13 to the South departure gate New departure headings for aircraft departing Runway 4 to the East departure gate
EWR	South departure gate shifted to the northwest New procedures for aircraft heading to new South departure gate New departure headings from all runways to all gates New departure headings off Runways 4L dependent on TEB Runway 6 New departure headings off Runways 22R dependent on TEB Runway 11
TEB	South departure gate shifted to the northwest New distant procedures for aircraft heading to shifted South departure gate
HPN	South departure gate shifted to the northwest New distant procedures for aircraft departing to the south gate

PHL	East departure gate shifted further east New procedures for aircraft heading to new East departure gate New departure headings for aircraft heading to the North, East, West, and South departure gates

Ocean Routing Alternative

The Ocean Routing alternative includes changes at EWR, LGA, and JFK and routes all EWR departing flights over the Raritan Bay to the Atlantic Ocean before turning them back over land to head to their departure gates. Figures 2.15 through 2.18 in the Final EIS identify major routing changes associated with the Ocean Routing alternative. The table below summarizes the Ocean Routing alternative.

[16]

Table 2.2
Summary of Ocean Routing
Airspace Alternative

Airport	Changes from Future No Action
JFK	Shifted West departure gate New procedures for aircraft heading to the West departure gate Split of the FNA Ocean departure gate into the Ocean and South departure gates New procedures for aircraft heading to the South departure gate South arrival post shifted to the east New procedures for aircraft arriving from the South arrival post New procedures for aircraft arriving from the North arrival post
LGA	New procedures for aircraft heading to the North departure gate
EWR	Shifted West departure gate New procedures for aircraft heading to the West departure gate Shifted South departure gate New procedures for aircraft heading to the South departure gate New procedures for aircraft departing Runways 22L/R to the North departure gate

	New procedures for aircraft departing Runways 22L/R to the East departure gate
TEB	No Changes
PHL	No Changes

Integrated Airspace Alternative

The Integrated Airspace alternative combines the New York TRACON airspace with portions of the surrounding Centers' airspace, permitting more seamless operations. The Integrated Airspace Alternative can be accomplished either with existing standalone facilities or in a consolidated facility. The key component of the Integrated Airspace alternative is a common automation platform.[7] Using existing facilities, airspace would be reallocated among the facilities in order to facilitate a more seamless operation. At the time the Airspace Redesign project was begun, the FAA had not yet decided to approve an Integrated Control Complex (ICC) concept.

As a result, the Integrated Airspace alternative was designed with two variations. The initial phase (2006) is the same for both variations because an ICC will not exist in 2006. It involves modifications to a departure gates as well as additional diverging departure headings, however, airspace facility boundaries would

[7]A common automation platform includes shared displays on screens, radar data processing and presentation, and communication.

not change. In the second phase (2011) there are two variations:

- Without ICC, which will integrate the airspace to the extent possible without the common automation platform includes expanded use of terminal separation, reallocation of airspace sectors and new technologies.
- With ICC, which involves full airspace integration includes multiple departure gates, additional arrival posts, and additional diverging departure headings.

[17]

Figures 2.19 through 2.22 in the Final EIS identify major routing changes associated with the Integrated Airspace alternative without ICC. The table below summarizes the Integrated Airspace alternative without ICC.

Table 2.3
Summary of Integrated Airspace Alternative Variation without ICC

Airport	Changes from Future No Action
JFK	No Changes
LGA	West departure gate extended to the north and to the south New procedures for aircraft heading to the West departure gate

	New departure headings for aircraft departing Runway 4 to the North departure gate New departure headings for aircraft departing Runway 4 to the East departure gate
EWR	New departure headings for all runways and all gates Procedures off Runway 4L dependent on TEB Runway 6 to West departure gates New procedures for aircraft heading to the West departure gate Procedures off Runway 4L dependent on TEB Runway 6 to North and East departure gates Procedures off Runway 22R dependent on EWR Runway 11 use Expanded West departure gate
TEB	West departure gate extended to the north and to the south New procedures for aircraft heading to the West departure gate New procedures for turboprop aircraft arriving from the northeast
HPN	West departure gate extended to the north and to the south New procedures for aircraft heading to the West departure gate New distant arrival procedures

PHL	New departure headings for aircraft heading to the North, East, West, and South departure gates

Figures 2.24 through 2.33 in Appendix A identify major routing changes associated with the Integrated Airspace alternative with ICC. The table below summarizes the Integrated Airspace alternative with ICC.

Table 2.4
Summary of Integrated Airspace Alternative Variation with ICC

Airport	Changes from Future No Action
JFK	North departure gate shifted 15 miles northeast New distant procedures for aircraft heading to the North departure gate West departure gate extended to the north and to the south New procedures for aircraft heading to the West departure gate Future No Action Ocean departure gate split into Ocean and South departure gates New distant procedures for aircraft heading to the Ocean departure gate New procedures for aircraft heading to the South departure gate North arrival post shifted five miles southeast

	New distant procedures for aircraft arriving from the North arrival post East arrival post shifted northwest New procedures for aircraft arriving from the East arrival post South arrival post shifted to the northeast New procedures for aircraft arriving from the South arrival post
[18] LGA	East departure gate shifted east North departure gate shifted 15 miles northeast New procedures for aircraft heading to the North departure gate West departure gate extended to the north and to the south New procedures for aircraft heading to the West departure gate South departure gate shifted to the northwest New procedures for aircraft heading to the South departure gate North arrival post shifted 30 miles east New procedures for aircraft arriving from the North arrival post West arrival posts shifts to coincide with Future No Action South arrival post New procedures for aircraft arriving from the west to coincide with the South arrival post

	West arrival flow split into two arrival flows, one to the north and one to the south New departure headings for aircraft departing Runway 4 to the North departure gate New departure headings for aircraft departing Runway 4 to the East departure gate
EWR	New departure headings for all runways and all gates East departure gate shifted to the east New procedures for aircraft heading to the East departure gate North departure gate shifted to the northeast New procedures for aircraft heading to the North departure gate West departure gate expanded to the north and south New procedures for aircraft heading to the West departure gate South departure gate shifted to the southwest New procedures for aircraft heading to the South departure gate New Ocean departure gate New procedures for aircraft heading to the Ocean departure gate North arrival post moved to 50 miles north of EWR New procedures for aircraft arriving from the North arrival post

	West arrival post shifted tc be near Greenville, NY West arrival flow split into two arrival flows, one to the north and one to the south New procedures for aircraft arriving from the South arrival post Use of both parallel runways for arrivals
TEB	Departure gates match those of EWR Integrated Airspace with ICC New distant procedures for aircraft heading to the North departure gate New distant procedures for aircraft heading to the West departure gate New distant procedures for aircraft heading to the South departure gate West arrival post shifted 15 miles south New procedures for aircraft arriving from the West arrival post New procedures for aircraft arriving from the West arrival post from the vicinity of Yardley, PA
HPN	North departure gate shifted 15 miles northeast New distant procedures for aircraft heading to the North departure gate West departure gate extended to the north and to the south New procedures for aircraft heading to the West departure gate

	South departure gate shifted to the west New departure procedures for aircraft departing to the south gate North arrival post shifted to the east New distant procedures for aircraft arriving from the north gate New distant procedures for aircraft arriving from the south
PHL	West departure gate expanded to the northwest

[19]

PHL	New procedures for aircraft heading to the West departure gate East departure gate is shifted to the east New procedures for aircraft heading to the East departure gate West arrival post shifts to the northeast New distant procedures for aircraft arriving from the West arrival post New departure headings for aircraft heading to the North, East, West, Southwest, and South departure gates Additional route added to North arrival post

A summary of the comparison of the alternatives can be found below.

[20]

Table 2.6
Operational Comparison of Alternatives

Table Omitted

[21]

V. Preferred and Environmentally Preferred Alternatives

At the time the Draft EIS was published, the FAA had not selected a preferred alternative. The FAA preferred to consider public and agency comments on the DEIS prior to identifying its preferred alternative. In March 2007, FAA announced the Integrated Airspace Alternative with ICC as its preferred alternative. This alternative was preferred because it best meets the purpose and need for the project: to improve the efficiency and reliability of the airspace thereby accommodating growth while enhancing safety and reducing delays. Table 2.6 provides an operational comparison among the alternatives. The Integrated Airspace Alternative in its ICC variation provides the best improvement in ten of the thirteen metrics that quantify each element of the purpose and need for the redesign. While the Modifications alternative and the Integrated Airspace alternative without ICC variation would provide marginal reduction in many metrics, the Integrated Airspace Alternative with ICC would

provide substantial benefits. The metrics that relate most directly to user costs (delay, routing flexibility and block time) are only improved by the Integrated Airspace alternative with ICC. Ocean Routing would decrease the airspace efficiency and add complexity to the airspace, thus it does not meet the purpose and need for the project. Therefore, the Integrated Airspace Alternative with ICC is the preferred alternative.

After selecting the Integrated Airspace Alternative with ICC as the preferred alternative, FAA began the process of developing measures to alleviate, to the extent possible, the impacts associated with the preferred alternative. Mitigation measures are those designed to avoid, minimize, rectify, reduce, eliminate, or compensate for environmental impacts. Because the preferred alternative would result in significant noise and noise-related (environmental justice) impacts in some areas, mitigation measures were developed to reduce the noise impacts where possible. FAA considered mitigation for all areas, including areas that did not receive a significant or slight to moderate impact. FAA also considered mitigation to address long-standing issues that might be improved as a result of airspace redesign.

After the Draft EIS was published, FAA identified a number of potential mitigation measures for the project. Additionally, FAA considered all public comments that included potential mitigation measures, which numbered over 450. Many of the public mitigation comments focused on similar issues and techniques as those identified by the FAA. An initial screen was performed on each proposed

measure. Some measures were immediately discarded because they presented operational or safety problems. Each remaining proposed mitigation measure was subjected to a two-step operational modeling. This modeling was both qualitative and quantitative. The two-step operational modeling identified whether a proposed measure was viable and the degree to which the proposed measure impacted the operational efficiency of the preferred alternative. In some cases a noise screen was applied to determine which measures provided the best alternatives for noise reduction. Details of this process can be found in Chapter 5 of the Final EIS.

[22]

FAA considered the environmental impacts of the preferred alternative with the mitigation that resulted from the screen. The results of those analyses, the Mitigation Report, were published in April 2007. FAA solicited comments on the Noise Mitigation Report including holding several public meetings. Mitigation measures were then incorporated into the preferred alternative resulting in the mitigated preferred alternative: the Integrated Airspace Alternative with ICC and mitigation measures.

The following mitigation measures have been identified as part of the selected project:

- HPN Departures—Departure routes shifted to the north shifted closer to the no action location
- LGA Departures—Departure headings reduced to two except during the morning push

- LGA Arrivals—Increased use of Localizer Directional Aid (LDA) arrival to Runway 22
- EWR Departures—Number of departure headings used based on demand; at night use modified ocean routing procedure
- EWR Arrivals—Raised arrival altitudes for Runways 22L/R in the vicinity of Bergen County, New Jersey and Rockland County, New York; raised arrival altitudes for Runways 4L/R in the vicinity of Sussex and Morris Counties, New Jersey; use continuous descent approach (CDA) during nighttime hours for arrivals from the northwest and southwest
- PHL Departures—Use one departure heading for Runways 9/27 L/R during nighttime hours
- PHL Arrivals—Increased use of River Approach (visual) to Runway 9; use CDA during nighttime hours for arrivals from north, northwest, and southwest

The mitigated preferred alternative is also the environmentally preferred alternative. In 2006 it reduces the number of persons who would be significantly impacted by noise to 545 people near PHL. In 2011, the mitigated preferred alternative would result in no significant impacts. The mitigated preferred alternative is the FAA's selected project.

VI. Environmental Impacts and Mitigation

In accordance with the guidelines set forth in the CEQ regulations and FAA Order 1050.1E, Chapter 4 of the EIS describes the potential impacts of implementing the project. Potential impacts include both the direct

and indirect effects of the proposed project and all reasonable alternatives. A total of nineteen impact categories were analyzed. The technical findings in the EIS provide federal decision-makers and officials, as well as the public, with an understanding of the potential effects of the project on the human, physical, and natural environment.

The potential impacts of the Airspace Redesign project were determined by comparing the projected future conditions without the project (Future No Action) with the projected future conditions for each action alternative. As discussed in section III above, the action alternatives analyzed for environmental impacts are: Modifications, Ocean Routing, and two variations of the Integrated Airspace, without ICC, and with ICC.

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A. Study Years

The EIS used the year of 2000 as the baseline year for the analysis. The year 2000 was used for several reasons. First, when the EIS analysis began, the year 2000 was the most recent complete calendar year for which air traffic statistics were available. Additionally, at the time the EIS analysis began, 2000 was the last full robust year of air traffic activity prior to the aviation slowdown resulting from terrorist activities and economic down turns. Finally, a study of the scope and magnitude of the EIS takes a number of years to develop fully. The analysis, specifically the noise modeling for the Draft EIS, took approximately three

and a half years to complete. Because of the time involved in performing the noise analysis, any baseline year would be several years in the past.

The years 2006 and 2011 were used as implementation years in the EIS. At the time the EIS analysis began, the FAA expected that if an action alternative were selected, implementation of the selected alternative would occur in stages. Some of the elements of an action alternative, for example using dispersal headings and transferring airspace from other air traffic facilities, could be implemented almost immediately, after training air traffic controllers. Because some elements of an action alternative could be implemented almost immediately and the Draft EIS was expected to be published in 2005, it was reasonable to assume 2006 as the first implementation year. Appendix B contains an analysis of forecast and actual traffic for 2006; the forecast was found to be reasonably close to the actual operations. The EIS is replete with references to 2006 as the first year in which this project would begin to be implemented. However, as a result of the extended comment period and the volume of public comments received, this proposed implementation date has been delayed by one year. In order to avoid confusion and the perception that this ROD addresses a proposal other than the one presented in the EIS, we have continued to refer to 2006 as the year of initial implementation.

B. Forecasts

The FAA developed forecasts of future aviation activity for the purpose of designing the detailed alternatives

and analyzing the impacts of those alternatives. The FAA's Office of Aviation Policy and Plans (APO) develops and regularly updates Terminal Area Forecasts (TAF) for selected airports throughout the country. The TAF however does not provide sufficient detail required for environmental modeling. For example, the TAF does not provide aircraft type, destination, and time of day of operations. As a result a forecast of future IFR aviation activity in the Study Area was prepared for this project. The forecast developed for this project centers around IFR flights at the 21 airports on which this study focused. Specific forecasts were not developed for the remaining airports in the Study Area. Because there would be no change in procedures at those airports as a result of the project, specific forecasts were not needed for the operational modeling. FAA recognized that in order to accurately portray the noise exposure, IFR operations from the other airports in the Study Area must be included in the forecasts for the noise analysis. IFR flights through the study area at an altitude below 14,000 feet MSL were included in the noise analysis as overflights. Overflights, for the noise

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forecast, included flights that may have originated at or been destined for an airport within the study area that was not one of the 21 focus airports, as well as flights that did not originate from and/or were destined for an airport outside the study area.

In developing the forecast, the project team paid particular attention to the forecast for the general

aviation (GA)[8] sector. The corporate aviation market, which is generally identified as business executive transportation using small jets and turboprop aircraft, is expected to grow much faster than scheduled airline service. This is primarily because of growth in fractional ownership programs in which businesses or individuals purchase a portion of an aircraft and share its use with other owners. Appendix B to the Final EIS contains details on forecasts including the assumptions upon which the forecasts were made.

Aircraft, including helicopters, operating under visual flight rules (VFR) are not part of this study and were not included in the forecasts because they are unaffected by proposed alternatives. VFR aircraft are not required to be in contact with ATC. Because VFR aircraft operate on a "see and be seen" principal and are not required to file flight plans, FAA has very limited information for these operations. There is no known source of comprehensive route, altitude, aircraft type, and frequency information for VFR operations in the study area. VFR aircraft generally fly in two ways—either in a pattern around an airport or to some destination of the pilot's choosing. VFR aircraft do not fly set routes to the same destination on each flight. A pilot operating an aircraft under VFR has the discretion to select his destination, route of flight, altitude, and the frequency with which he flies.

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[8]General aviation refers to aircraft operations other than those by scheduled passenger and cargo aircraft not characterized as air carriers or air taxis.

The Airspace Redesign project covers over 31,000 square miles and involves five major airports, sixteen satellite airports, and numerous other airports. As a practical matter, VFR aircraft can depart from or arrive at virtually any airport in the study area or simply pass through the study area on their way to their destination. They can take any route while in the study area. There is no effective method of obtaining a representative sample of the frequency of VFR flights, their routes, altitudes, destinations, and the type of aircraft used over the study area for this type of project. To address potential cumulative noise impacts from VFR traffic the FAA conducted noise monitoring at 18 locations during two distinct periods, resulting in over 36 individual data sets.

In contrast, there are ways for the FAA to obtain the sample data necessary to analyze VFR operations in NEPA documents for discrete proposed airport development projects. The study area for such projects is centered on the specific area surrounding that airport. Most impacts take place in the general area surrounding the airport. Landing and takeoff routes for airport-specific projects are limited by the runway configuration at the airport, and surveys can be conducted to determine representative destinations for VFR aircraft.

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C. Impacts and Mitigation

Chapter 4 of the Final EIS contains a detailed analysis of the environmental impacts of all of the alternatives

for each of the study years. A detailed discussion of the mitigated preferred alternative, the selected project, appears in Chapter 5 of the Final EIS. This section of the ROD will discuss the impacts of the preferred alternative and the selected project as compared with the no action alternative.

1. Noise and Compatible Land Use

A. Noise

As required by FAA Order 1050.1E, the Noise Integrated Routing System, NIRS, was used to model the noise impacts of the Airspace Redesign project because the project involved a study area larger than the immediate vicinity of an airport, incorporates more than one airport and includes actions above 3,000 AGL. FAA also applied its criteria of significance, an increase of 1.5 dB DNL or more on any noise sensitive area within the 65 dB DNL area, to determine whether the project would result in a significant noise impact. Additionally, FAA reported areas of slight to moderate impacts, that is areas already experiencing noise between 60 to 65 dB DNL that experience a 3 dB DNL or more increase, and areas between 45 and 60 dB DNL that experience a 5 dB DNL or more increase. Section 4.1.2 of the Final EIS contains the detailed environmental analysis of each of the alternatives with respect to noise and compatible land uses.

Under the Future No Action Alternative, there will be a slight growth in noise exposure because of an increase in aircraft operations expected in 2006 and 2011. Approximately 72,141 people in the Study Area,

principally in the areas surrounding Kennedy, Newark Liberty, LaGuardia, and Philadelphia Airports, are projected to be exposed to aircraft noise levels greater than 65 dB DNL in 2006. In 2011, this number is 75,459. In 2006 213,692 people in the Study Area are projected to be exposed to noise levels in the 60 to 65 dB DNL range. This number declines to 209,793 in 2011. The Study Area population projected to be exposed to noise levels in the 45 to 60 dB DNL range is 11,774,446 in 2006 and 11,688,798 in 2011.

The selected project would cause approximately 21,399 people to be significantly impacted, which means they would experience a change in noise levels of +1.5 dB or more at a level of 65 DNL dB or greater in 2006. These impacts would occur principally in areas surrounding Kennedy, LaGuardia, Newark Liberty and Philadelphia Airports, specifically in the area of Rikers Island and Hunts Point in New York, Elizabeth, New Jersey, and Essington, Crum Lynne, Woodlyn, Wallingford, Rose Valley, Parkside, Brookhaven, and southeastern Chester Heights in Pennsylvania. The noise increases over Rikers Island and Hunts Point result from the new departure headings off LGA Runway 31to the north and west gates. The noise increases over Elizabeth, New Jersey are caused by new departure heading off EWR Runways 22L/R. In the Philadelphia area, the noise increases are caused by new departure headings from PHL Runways 27L/R.

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Slight to moderate impacts would also result from the preferred alternative in 2006. Approximately 37,558 people in the Study Area would experience an increase of 3 dB DNL who would be in areas experiencing noise exposure of 60 to 65 dB DNL. In areas that would experience 45-60 dB DNL, the number of persons experiencing a slight to moderate impact, 5 dB DNL, would be 142,517.

The preferred alternative would also result in noise decreases in 2006. Within areas that would experience noise exposure of 65 dB DNL and above, 5,970 persons would experience a noise reduction of 1.5 dB DNL or more. One person within the 60-65 dB DNL would experience a noise reduction of 3 dB DNL, and 39,400 people in areas that would experience 45-60 dB DNL would experience a noise reduction of at least 5 dB DNL.

The year 2011 represents the full airspace consolidation and full implementation of the preferred alternative. Significant impacts will occur in 2011 with the preferred alternative, again principally in the areas surrounding Philadelphia, Newark Liberty, Kennedy and LaGuardia Airports. A total of 15,826 people in the study area will experience significant noise impacts principally in the areas of Rikers Island and Hunts Point, New York, Elizabeth, New Jersey, and Essington, Crum Lynne, Woodlyn, Wallingford, Swarthmore, Media, Rose Valley, and Parkside, Pennsylvania. The 2011 noise increases result from the same design elements that cause significant

impacts in 2006. While 2011 will result in significant noise impacts, those impacts will affect a smaller number of people in the study area in 2011 than in 2006.

Slight to moderate impacts would also result from the preferred alternative in 2011. Approximately 34,824 people in the Study Area who would be in areas experiencing noise exposure of 60 to 65 dB DNL would experience an increase of 3 dB DNL. In areas that would experience 45-60 dB DNL, the number persons experiencing a slight to moderate impact, 5 dB DNL, would be 290,758.

The preferred alternative would also result in noise decreases in 2011. Within areas that would experience noise exposure of 65 dB DNL and above, 6984 persons would experience a noise reduction of 1.5 dB DNL or more. Within the 60-65 dB DNL 22 people would experience a noise reduction of 3 dB DNL, and 62,537 people in areas that would experience 45-60 dB DNL would experience a noise reduction of at least 5 dB DNL.

With respect to noise, the selected project (the mitigated preferred alternative) would result in a decrease in the number of significantly impacted persons in 2006 to 545, in an area west of Philadelphia International Airport, and the elimination of significant noise impacts in the year 2011. Because the mitigation measures applied to the Integrated Airspace alternative with ICC, the analysis focused on the year 2011. As a result of the mitigation measures, the number of persons who would experience a

significant noise impact would be reduced to 0 from the 15,826 people who would experience a significant noise impact without the mitigation measures. With respect to slight to moderate impacts, 16,803 people who would be in areas experiencing noise exposure of 60-65 dB

[27]

DNL would experience a 3 dB DNL increase in noise, down from 34,824 without mitigation. In areas that would experience noise exposure between 45 and 60 dB DNL, 50,392 would experience a 5 dB DNL increase, as compared to the 290,758 persons who would experience a similar increase without mitigation. See Chapter 5 of the Final EIS for additional details.

As compared to the Future No Action in 2011, the selected project would reduce the number of people experiencing noise exposure of 65 dB DNL and above by 778 people. It would result in increases in the number of people experiencing noise exposure levels between 60 and 65 dB DNL and 55-60 dB DNL by 30,594 and 79,813 respectively. In 2011, the number of people projected to be exposed to noise at the 50-55 dB DNL level would be reduced by 180,411 people over the Future No Action alternative. Finally, 548,241 fewer people will experience a 45-50 dB DNL noise exposure as a result of the selected project.

The selected project will not have a significant impact with respect to noise in 2011.

B. Compatible Land Use

For airspace redesign projects, incompatible land uses result chiefly from noise impacts. Excessive noise exposure may be incompatible with noise sensitive land uses, such as residences, schools, hospitals, places of worship, parks, and historic sites. Residences in the areas that would experience significant noise impacts as a result of the selected project would constitute incompatible land uses. Additionally, several noise sensitive properties would experience significant noise impacts. They are: Inwood Country Club near JFK; residences at 34 E. 4th Street and 406 Marshall Street and the John Marshall School, and the Bronx Powder Company and the Jenkins Rubber Company buildings near EWR; and the Westinghouse Industrial Complex near PHL. Based on the level of noise modeled for these noise sensitive sites and their use, only the residences at 34 E. 4th Street and 406 Marshall Street and the John Marshall School would represent an incompatible land use.

When the mitigation measures are considered, the selected project would not result in incompatible land uses. As stated in the discussion of noise impacts, the mitigation decreases the number of significantly impacted people to 545 in 2006 and eliminates all significant noise impacts to people in 2011, therefore the selected project would not result in incompatible residential land uses in the long term. With respect to other noise sensitive properties, only the Inwood Country Club and the Westinghouse Industrial Complex would continue to be subject to significant noise impacts by the selected project. Based on their

use, the level of noise exposure at the Inwood Country Club and Westinghouse Industrial Complex would not represent incompatible land uses.

2. Socioeconomic Impacts and Environmental Justice

A. Environmental Justice

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FAA afforded meaningful opportunities for minority and low income populations to participate in the environmental review process by conducting extensive public outreach activities. The FAA held 31 pre-scoping workshops, 28 formal scoping meetings, 30 public meetings on the Draft EIS and 7 public information meetings on the Noise Mitigation Report. These meetings were held in locations accessible by public transit, translators were provided, and meetings were advertised by contacting community leaders and using specialized foreign language media. The public information meeting in Newark, New Jersey was held near the potentially affected community.

Environmental Justice impacts were evaluated using the definitions of minority and low income populations in DOT Order 5610.2 and the Council on Environmental Quality Guidance Under the National Environmental Policy Act. For purposes of the analysis, a high and adverse effect was considered to be a significant impact. As all of the proposed airspace redesign alternatives have potentially significant noise impacts, census data was used to determine the

income and minority composition of the significantly impacted areas. This data was used to determine whether these alternatives would result in disproportionately high and adverse effects on minority or low income populations.

The data indicated that all of the airspace redesign alternatives, with the exception of the Ocean Routing Airspace Alternative, would result in environmental justice impacts on minority populations, but not low-income populations. See FEIS Section 4.2 for more details. The preferred alternative would have disproportionately high and adverse impacts on minority populations principally at Rikers Island near LaGuardia and in areas surrounding Newark Liberty and Philadelphia International. As the median income in the effected residential areas exceeds the poverty level there would be no disproportionately high and adverse impacts on low income populations.

Mitigation measures were considered to avoid or minimize the significant impacts for the preferred alternative, in the Final EIS. With mitigation, the preferred alternative would cause significant noise impacts in a residential area located west of PHL upon initial implementation (2006) but all such impacts would be eliminated by 2011.

Closer examination of impacts by census block showed that the overall population significantly impacted by noise in 2006 is less than 50% minority. When the minority population significantly impacted by noise (highest percentage is 17%) is compared to the minority population for Delaware County, 18.7%, the

minority population significantly impacted is not meaningfully greater than that of the surrounding area. The percent minority population and median income of each of the significantly impacted census blocks in 2006 is shown in FEIS Table 5.10. The data in the table indicates that median income levels in the significantly impacted areas are above the poverty level.

Based on the above, the project selected for approval and implementation in this ROD, the Preferred Alternative with mitigation, would not cause a disproportionately high and adverse health or environmental impact upon minority or low income populations in 2006 or 2011.

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B. Socioeconomic Impacts

FAA Order 1050.1E requires that socioeconomic impacts be considered in environmental analyses of major federal actions. Both direct and indirect impacts were considered in evaluating the selected project. Factors to be considered in determining whether a project would result in significant socioeconomic impacts include whether the project would cause extensive relocation of residents and sufficient replacement housing would not be available; whether there would be extensive relocation of community businesses that would create a severe hardship for the community; whether there would be disruptions of local traffic patterns that substantially reduce the level of service on the roads in the surrounding

community; and whether there would be a substantial loss in a community tax base.

The selected project would not result in the construction of facilities. As a result relocation of residences or community businesses would not be required, local traffic patterns would not be disrupted, and there would be no loss of tax base. There would be no direct socioeconomic impacts as a result of the selected project.

Because the preferred alternative would result in significant noise impacts, FAA considered whether it would create indirect socioeconomic impacts. All of the significantly impacted census blocks are located in the immediate vicinity of LaGuardia, Newark Liberty, and Philadelphia. These areas are currently exposed to extensive aviation noise, and would continue to be exposed to noise at similar levels with the Future No Action alternative. Additionally, because of their urban settings, ambient noise is also high in these areas. It would be unlikely that residences or businesses would relocate, surface transportation patterns would be altered, established communities would be divided, planned development would be disrupted, or employment levels would be changed as a result of the selected project. When mitigation is considered, the selected project eliminates significant noise impacts in the long term, thus eliminating the potential for indirect socioeconomic impacts.

3. Secondary or Induced Impacts

Major federal actions have the potential to create induced or secondary impacts on the surrounding communities. Significant induced impacts would normally result from shifts in patterns of population movement and growth; public service demands; and changes in business and economic activity as a result of the project. Significant secondary impacts would normally only result when there are significant impacts in other impact categories, specifically noise, land use, and social impacts.

Secondary or induced impacts were considered in the areas in which the preferred alternative would create significant noise impacts. All of the significantly impacted areas are located in the immediate vicinity of LaGuardia, Newark Liberty, and Philadelphia Airports. These areas currently are exposed to extensive aircraft noise and would continue to be exposed to similar noise levels with the Future No Action alternative. The

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areas are also located in an urban setting in which ambient noise is also high. For these reasons, there would be no significant secondary or induced impacts as a result of the preferred alternative. When mitigation is considered, significant noise impacts are eliminated long term eliminating the potential for secondary or induced impacts as a result of the selected project.

4. Department of Transportation Act Section 4(f) and Land and Water Conservation Act Section 6(f).

A. Historical, Architectural, Archeological, and Cultural Resources

The National Historic Preservation Act of 1966 (16 U.S.C. §470), as amended requires Federal agencies to consider the effects of their undertakings on properties listed or eligible for listing on the National Register of Historic Places. In assessing whether an undertaking, such as the preferred alternative, effects a property listed or eligible for listing on the National Register of Historic Places, both primary and indirect effects must be considered. Primary effects include the physical removal or alteration of an historic resource. Indirect impacts include changes in the environment of the historic resource that could substantially interfere with the use or character of the property. Such changes include changes in noise, vehicular traffic, and visual impacts.

Neither the preferred alternative nor the selected project includes any ground disturbance, and as a result neither would have direct affects on historic resources in the Study Area.

In order to assess the indirect impacts of the preferred alternative on historic resources, the FAA identified the area of potential effect (APE). The APE consisted of all census blocks with significant noise impacts. The State Historic Preservation Officers (SHPO) in each of the states in the Study Area, except Delaware, agreed to this methodology. The Delaware SHPO requested

that all of New Castle County, within the Study Area, be examined for impacts to cultural resources. Potential noise changes in this area of interest were considered while developing the APE. Ultimately, the APE did not include any areas in the states of Connecticut or Delaware because not only were there no significantly impacted census blocks within these states, there were also no moderately or slightly impacted census blocks in either state.

Seventeen historic resources were identified as being in the APE: the Inwood Country Club near JFK, the Unification Chapel, the residences at 34 E. 4th Street and 406 Marshall Street, the John Marshall school, the Bronx Powder Company and the Jenkins Rubber Company buildings, and the Singer Factory District, the Italianate Rowhouse at 168-173 Reid Street, the Sacred Heart Church and School and a portion of the Central Railroad of New Jersey, near EWR; and the Lazaretto, the Printzhof, the Corinthian Yacht Club and Springhouse, the Art Moderne House, the Linde Air Products Corporation, the Westinghouse Village row houses and the Westinghouse Industrial Complex located near PHL. Since publishing the Final EIS, it was discovered that several sites eligible or potentially eligible for listing on the National Register of Historic

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Places were inadvertently omitted from the discussion in the FEIS. This information is contained in Appendix B.

None of these historic properties is listed or eligible for listing on the National Register of Historic Places because of a quiet setting, therefore an increase in noise, even a significant increase in noise, would not constitute an adverse effect. The FAA has coordinated its determination of no adverse effect with the respective SHPOs. The Pennsylvania SHPO initially sought additional information with respect to the project, however each of the SHPOs has concurred with the FAA's determination of no adverse effect.

B. Parks, Wildlife Refuges

The Draft EIS and Final EIS addressed the FAA's requirement under Section 4(f) of the Department of Transportation Act of 1966 [codified as 49 U.S.C. §303(c)] to determine whether the selected project would result in the use of protected lands or historic properties. Section 4(f) provides that the "Secretary [of Transportation] may approve a transportation program or project requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of a historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if there is no prudent and feasible alternative to using that land; and the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use." The term "use" encompasses not only physical use but may also include adverse impacts such as noise ("constructive use"). A constructive use

of a Section 4(f) resource occurs only when the adverse impacts of a project substantially diminish the activities, features, or attributes of the resource that contribute prominently to its significance or enjoyment."[9]

As explained in the Draft EIS and Final EIS, there would be no actual, physical taking of any Section 4(f) property for the selected project. The selected project does not require land acquisition or facility construction. While the selected project has been described as the Integrated Airspace Alternative with Integrated Control Complex, the EIS has made it clear that an ICC can be accomplished within existing buildings with a shared automation platform.

The key issue in terms of constructive use for airspace redesign is project-related aircraft noise. A secondary issue in terms of constructive use for airspace redesign is visual impacts. Chapter Four of the Draft EIS indicated that the Airspace Redesign would not cause use of any Section 4(f) lands and historic sites. Chapter Four relied primarily upon application of the land use compatibility guidelines in 14 CFR Part 150. In response to comments on the Draft EIS, the FAA re-evaluated the applicability of Part 150 guidelines to Section 4(f) resources in the Study Area. Based upon consultation with the National Park Service and comments from interested parties, the Final EIS included information

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[9]23 CFR §771.135(p)(4)(ii)

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about: (1) Section 4(f) resources potentially having quiet settings as a generally recognized feature or attribute of their significance, (2) a determination of no constructive use when such resources would be predicted to experience less than a 3 DNL change in noise as a result of the selected project in 2011, and (3) the nature of airspace changes affecting such resources predicted to experience 3 DNL or greater increases in noise in 2011. The following paragraphs summarize the information included in Chapter Five of the Final EIS.

Based upon consultation with NPS and interested parties and the data and analyses described in Chapter 5 of the Final EIS and this ROD, FAA has gained additional knowledge about the relative nature and magnitude of project-related impacts in the overall context and the values of the resources protected by Section 4(f) in the study area. The data and analyses indicate that the mitigated Preferred Alternative will not result in a use of a park, recreation area or wildlife and waterfowl refuge, or historic site of national, State, or local significance.

Constructive Use- Noise

Since the selected project has the potential to result in changes in noise over Section 4(f) sites, the FAA conducted an analysis of whether there is a constructive use of any Section 4(f) properties. For a project to result in a constructive use of a 4(f) property, a substantial impairment must occur. "Substantial

impairment occurs only when the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished. ... With respect to aircraft noise, for example, the noise must be at levels high enough to have negative consequences of a substantial nature that amount to a taking of a park or portion of a park for transportation purposes."[10]

The FAA relies on Part 150 [14 C.F.R. Part 150] guidelines to evaluate whether there is a constructive use of Section 4(f) lands where they are relevant to the value, significance, and enjoyment of Section 4(f) lands. Part 150 guidelines are appropriate in evaluating whether there is a constructive use of lands devoted to traditional recreational activities. Additionally, the FAA also relies upon Part 150 guidelines, as applicable, for evaluating whether there is a constructive use of historic properties such as for properties in use as
residences.

The FAA recognizes that Part 150 guidelines may not be appropriate to address 4(f) resources of value for their quiet settings, that is, lands where noise levels are very low and visitors have an expectation of quiet. "Special consideration needs to be given to the evaluation of the significance of noise impacts on noise sensitive areas within national parks, national wildlife refuges and historic sites, including traditional cultural properties. For example, the 65 dB DNL threshold does not adequately address the effects of

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[10]FAA Order 1050.1E, Appendix B, Section 6.2f

noise on visitors to areas within a national park or national wildlife refuge where other noise is very low and a quiet setting is a generally recognized purpose and attribute." In its comments on the Draft EIS dated June 12, 2006, the US Department of Interior

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recommended that FAA "perform more thorough analysis of impacts to National Park System units and other listed Section 4(f) resources ... and then re-evaluate the issue of 4(f) use."[11]

The FAA consulted with the National Parks Service (NPS) and considered comments from other interested parties to identify Section 4(f) lands valued for their quiet settings located in the Study Area. The National Parks within the Study Area, the Wilderness Areas of the Catskill State Park, Minnewaska State Park, and Shawangunk Ridge State Forest were identified as potentially having value for their quiet settings. These Section 4(f) lands were subject to additional analysis to determine whether the impacts of the selected project constitute a constructive use.

In evaluating the 4(f) lands identified as potentially having value for their quiet setting, the FAA described the property, highlighting any information relating to the level of use and visitor experience. Management plans, when provided by the NPS/FWS, were reviewed and pertinent information was included in the description. Noise levels were calculated at points

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[11] FEIS, Appendix N, (Section N.1 under Federal Agencies)

within each of the properties. graphics and tables showing the locations and values of the calculated noise levels in each of the subject lands are included in Appendix J.3 of the Final EIS. The difference in noise exposure levels with and without the selected were compared and evaluated.

Lands with a 3.0 DNL or Less Change

The noise values (DNL) for the selected project for 2011 were compared to the 2011 Future No Action Alternative noise values. Where the difference in the noise level experienced as a result of the selected project, as compared to the 2011 Future No Action, was less than 3.0 DNL at all points analyzed within the property, FAA concluded the change in noise would not result in a constructive use of the Section 4(f) land. The use of 3.0 DNL for screening for constructive use is a conservative application of the screening criteria used by the FAA to analyze noise levels below 65 DNL dB in NEPA documents and consistent with Federal Highway Administration and Federal Transit Administration (formerly the Urban Mass Transit Administration) regulations defining constructive use

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under 23 C.F.R. §771.135.[12] At a great majority of the Section 4(f) properties identified for additional analysis, the difference in noise exposure level would be less than 3.0 DNL. Therefore, the FAA concluded in

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[12]The FAA adopted the recommendations of the Federal Interagency Committee on Noise (FICON) to broaden the scope of airport noise analysis to address 3 dB or more between DNL 60 and 65 dB in its NEPA documents. The Technical subgroup of FICON developed this criteria based on its assessment that a 3 dB increase in DNL, which represents a doubling of sound energy, is clearly perceptible at sound levels between DNL 60 and 65dB and suggests the need for additional analysis. FAA Order 1050.1E, Appendix A, paragraph 14.4c. For air traffic airspace actions such as the present one FAA normally uses the Noise Integrated Routing System (NIRs) to produce change-ofexposure tables and maps at population centroids based upon changes of 5 DB in the DNL 45-60 DNL dB contour area and changes of 3 dB or greater between DNL 60 and 65 DNL dB. FAA Order 1050.1E, paragraph 14.5e. DNL changes of 5dB are used because it requires a greater change in noise at lower noise levels to have the potential for people to perceive a change in the noise environment. Increases of 3 dB or greater were used as a screening tool here at all levels below DNL 65 dB, including areas far below FAA's normal DNL 45dB lower limit for screening populated areas, to err on the side of more conservative screening. This resulted in additional analysis at much lower noise levels using much lower screening criteria than normal to provide special consideration to resources protected under DOT Section 4(f) identified as having a quiet setting as a generally recognized purpose and attribute and also to address DOI concerns that parks should not be equated to residential areas. The FICON guidance concerning 3 DNL db is more directly relevant here than the FHWA constructive use regulations, which relate to traffic noise exposure measured in hourly or 12 hour equivalent sound levels.

the Final EIS that for these properties the selected project would not result in a constructive use.

Lands with Some Change greater than 3.0 DNL

Some of the Section 4(f) land would experience a change in noise exposure level of 3.0 DNL or greater as a result of the selected project. The FAA did not make a conclusion regarding constructive use of these properties in the Final EIS. Rather, in Section 5.3.5.1 of the FEIS the FAA committed to conduct further evaluation, in consultation with appropriate federal and state officials, to determine whether predicted noise increases over affected areas of these 4(f) resources would result in a constructive use. FAA further indicated that it would include the results of this evaluation and any necessary additional 4(f) analysis and determination in this Record of Decision. The additional analysis is summarized below and detailed in Appendix B of the ROD.

The Section 4(f) properties for which additional noise evaluation was conducted are:

- Appalachian National Scenic Trail
- Delaware and Lehigh National Heritage Corridor
- Delaware Water Gap National Recreation Area

[35]

- Hopewell Furnace National Historic Site
- Upper Delaware Scenic & Recreational River
- Weir Farm National Historic Site
- Wallkill River National Wildlife Refuge
- Catskill Park (Big Indian—Beaverkill Range Wilderness Area, Slide Mountain Wilderness Area, Westkill Mountain Wilderness Area)

Additional 4(f) Resources to which Part 150 Guidelines Apply

Upon additional review, the FAA has determined that a quiet setting does not appear to be a generally recognized feature or attribute of the significance for several of the sites that were identified for further study in the Final EIS. The additional analysis and review is summarized below and detailed in Appendix B of the ROD.

The Hopewell Furnace National Historic Site, Upper Delaware Scenic and Recreational River, and the Delaware and Lehigh Canal National Heritage Corridor are lands for which a quiet setting is not an attribute of the land. Therefore, pursuant to Order 1050.1E, the Part 150 guidelines should be used to evaluate whether there is a constructive use. The range of noise exposure levels resulting from the selected project for all three 4(f) properties were below

the Part 150 compatibility guidelines. Additionally, the Hopewell Furnace National Historic Site, and the Delaware and Lehigh Canal National Heritage Corridor are historic properties and the finding under Section 106 may be used to determine whether there would be a constructive use. Both sites are outside the APE determined in consultation with the appropriate State Historic Preservation Officers and therefore were not affected by the selected project.

Lands for which a quiet setting is an attribute of the land

With respect to the remaining Section 4(f) sites for which a quiet setting is an attribute of the land, a review of the data showed that with the selected project, the aircraft noise exposure levels at the points evaluated in all of these sites would remain within a range of 44.0 DNL at the highest to 15.5 DNL at the lowest. This range in noise level is low to extremely low. For example, FHWA has determined that a constructive use would not occur for "[l]ands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose" when the project noise does not exceed 57 Leq(h).[13] This can be

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[13] 23 CFR §771.135and Table 1 of 23 C.F.R. §772.

conservatively equated to 43.2 DNL.[14] Specifically any location that

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has an aircraft DNL value of 43.2 DNL or less could not possibly have a peak hour Leq(h) level of greater than 57 dB.

The FAA evaluated the noise exposure levels at the remaining Section 4(f) properties, the Appalachian Trail, the Catskill Park Wilderness Areas, the Delaware Water Gap, the Wallkill National Wildlife Refuge and the Weir Farm National Historic Site, by considering the noise exposure level ranges and medians at each site. Based on this data, the FAA determined that the noise environment would not be substantially changed by the selected project and/or the comparable ambient noise levels are expected to be higher than future aircraft noise levels, and/or the site was not affected as it pertains to Section106. Therefore, the FAA concluded that the selected project

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[14]The criteria are based on the 1-hour Leq (Leq(h)) metric for peak hour traffic. The DNL metric is a 24-hour cumulative noise metric with an added 10 dB penalty for events that occur during nighttime hours. Translating the 1-hr Leq threshold to a 24-hour Leq can be done conservatively (finding the lowest 24-hr threshold level) by assuming that the threshold value (Leq(h) 57 dB) would occur only one hour during the day and then no noise for the remaining 23 hours of the day. This would result in a 24 hour Leq of 43.2dB. The comparison of DNL values to 24-hour Leq values generally represents a conservative comparison since DNL levels are typically higher than Leq values would be for the same amount of noise.

would not result in a constructive use of a 4(f) property as it relates to noise.

FAA also considered effects upon the Wallkill National Wildlife Refuge considering the fact that one of its purposes is to preserve threatened and endangered species. Listed species known to inhabit the refuge currently or in the past are: the Indiana bat, bog turtle, dwarf wedge mussels, Mitchell's satyr (extirpated), and American burying beetle (extirpated). As noted in the section of this ROD relating to threatened and endangered species, by letter dated August 27, 2007, the FAA determined that the selected project would have no affect on these listed species and requested concurrence from FWS. On September 5, 2007, the FWS concurred with the FAA's determination of no effect to these federally listed species. See that section of the ROD for more details.

Constructive Use- Visual

Visual impacts would result in a constructive use of a 4(f) site only if the activities, features, or attributes of the site that contribute to its significance or enjoyment are substantially diminished. Normally, visual impacts are a result of construction, development, or demolition. The selected project does not include any of these actions. FHWA regulations defining constructive use include examples of when the proximity of a proposed project to a 4(f) site would substantially diminish aesthetic features or attributes that contribute to the value of a Section 4(f) property. "Examples...would be the location of a proposed transportation facility in such proximity that it

obstructs or eliminates the primary views of an architecturally significant historic building, or substantially detracts from the setting of a park or historic site which derives its value in substantial part due to its setting."

The North Eastern Corridor of the U.S. is heavily populated and is a hub for domestic and international air traffic. The Study Area is already heavily traversed by commercial

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aircraft. The selected project is limited to changing the aircraft routes. At higher aircraft altitudes and with greater distances from viewers, it is unlikely that changes in the location of such tracks would substantially obstruct the primary vista or detract from the setting of 4(f) resources that derive their value in substantial part due to their settings and vistas. However, based on consultation with the NPS, the FAA provided additional information regarding potential airspace changes in the vicinity of outstanding vistas located within the National Parks, National Wildlife Refuges and the Catskill Park Wilderness Areas.

As requested by the NPS, the FAA reviewed the management plans and other documentation for the parks to determine the locations of important and / or outstanding vistas. It is noted that many management plans referred to scenic qualities in a generalized manner but did not include the locations of specific outstanding vistas. Visual impacts were primarily

considered only for the specifically identified vistas. Thus visual impacts were considered for scenic vistas identified in the following parks: the Appalachian Trail, the Delaware Water Gap National Recreation Area, the Ellis Island National Monument, the Gateway National Recreation Area, the Home of Franklin D. Roosevelt National Historic Site, the Morristown National Historical Park, the Statue of Liberty National Monument, the Vanderbilt Mansion National Historic Site, the Elizabeth A. Morton NWR, the Oyster Bay NWR, the Stewart B. McKinney NWR, the Target Rock NWR, and the Big Indian, Slide Mountain, Indian Head, Westkill Mountain Wilderness Areas in the Catskills Park. For these locations, a summary of the potential airspace changes in the vicinity of the scenic vistas was provided. This information includes number of operations, and the minimum, average and maximum altitudes resulting from the Future No Action Airspace Alternative, Preferred Alternative, and the mitigated Preferred Alternative. Based on this information it was determined in the Final EIS that the selected project would not result in a constructive use relative to visual impacts for scenic vistas in the following parks: the Delaware Water Gap National Recreation Area, the Ellis Island National Monument, the Gateway National Recreation Area, the Morristown National Historical Park, the Statue of Liberty National Monument, the Elizabeth A. Morton NWR, the Oyster Bay NWR, the Stewart B. McKinney NWR, the Target Rock NWR, and the Big Indian, Slide Mountain, and Westkill Mountain Wilderness Areas in the Catskills Park.

Additional Analysis

In Section 5.3.5.1 of the Final EIS the FAA committed to conduct further evaluation to determine whether visual changes over the Appalachian Trail, the Home of Franklin D. Roosevelt National Historic Site and the Vanderbilt Mansion National Historic Site would result in a constructive use and to consult with appropriate federal officials. FAA further indicated that it would include the results of this evaluation and any necessary additional 4(f) analysis and determination in this Record of Decision. The additional analysis is summarized below and detailed in Appendix B of the ROD. For the Appalachian Trail, the data shows that minimum altitudes for overflights would be the same with both the No Action Airspace Alternative and the selected project for all viewpoints except V19-20, V23-30 and V48-51. At viewpoints V19 -20 and V23 -30 the minimum altitudes would be appreciably/approximately the same. At viewpoints V48 –

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51 only very small number of propeller aircraft would fly at an altitude lower than the No Action Airspace minimum altitude. Operations would decrease at 29 viewpoints (V1-V-5; V12-18; V19-20; V59-66, and V72-78) and increase at 48 viewpoints (V6-11, V23-30, V31-37, V38-V58, V67-71, V79). Currently, given their altitude and transitory nature, commercial aircraft do not obstruct the noted views along the Appalachian Trail. Therefore, since the selected project does not substantially change the minimum altitudes of

commercial aircraft, it is concluded that the selected project would not result in an obstruction to the noted views nor would it substantially detract from the setting of the Trail. The visual effects of the airspace changes associated with the selected project are minor and would not substantially diminish the activities, features, or attributes of the Appalachian Trail. The FAA thus concludes that the selected project would not result in a constructive use as it relates to visual impacts for the Appalachian Trail.

Specific superb views overlooking the Hudson River, the bluffs and mansions across the river, and the Shawangunk Mountains to the west were noted in the both the Home of Franklin D. Roosevelt National Historic Site and the Vanderbilt Mansion National Historic Site Master Plans. According to Table 5.14 of the Final EIS, the total daily operations over these sites would increase from 109 with the No Action Airspace Alternative to 136 with the selected project. If those operations were spread out over a 24 hour period this would equate to 4.5 operations per hour with the No Action Airspace Alternative and to 5.7 operations per hour with the selected project. The table also shows that the minimum altitude of these operations does not change as a result of selected project. Therefore, because the change in the number of operations would be low and the minimum altitude would remain the same, the visual environment would not substantially change as a result of the selected project. It is thus concluded that the selected project would not result in a constructive use of these resources as it relates to visual impacts because the changes associated with the selected project would not

substantially diminish the activities, features, or attributes of either historic site.

Based on analysis found in the Final EIS and Appendix B of the ROD, the FAA concludes that the selected project would not result in either a physical or constructive use of a 4(f) property. The FAA is committing as part of this ROD to monitor the implementation of the selected project as it relates to DOT Section 4(f) resources for which quiet and serenity are recognized attributes and purposes, utilizing adaptive management techniques.

5. Wild and Scenic Rivers

The Wild and Scenic Rivers Act provides for the protection and preservation of rivers that possess outstandingly remarkable recreational, geologic, fish and wildlife, historic, cultural, and other similar values. The designated wild and scenic rivers within the Study Area are: the Farmington Wild and Scenic River in Connecticut; the White Clay Creek in Delaware and Pennsylvania; the Great Egg Harbor River and the Maurice River in New Jersey; the Upper Delaware Scenic and Recreational River in Pennsylvania and New York; and the Middle and Lower Delaware Scenic and Recreational River in Pennsylvania and New Jersey.

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The FAA has determined that there would be no indirect or direct impacts on a wild or scenic river as a result of the selected project. None of these rivers lie in

areas that will experience any reportable noise impact that is a significant or slight to moderate noise impact.

6. Fish, Wildlife, and Plants

A. Fish, Plants and Wildlife Other Than Avian Species

The selected project involves no ground disturbance, and therefore will not destroy or modify critical habitat for any species. Because the number of flights as well as the origin and destination of the flights will remain the same as with the No Action alternative, the selected project would not increase the opportunity for introduction of invasive species. Additionally, the selected project would not increase the probability of aircraft strikes involving non-avian species. Such strikes are either on or very close to the ground. Aircraft movement in areas where terrestrial species are likely to be involved in a strike is dictated by the location of runways and taxiways. The selected project will not alter runway or taxiways at any of the airports in the Study Area. The FAA has concluded that the selected project will have no significant impacts on fish, plants, or wildlife species other than avian species.

B. Birds

The potential impact to avian species resulting from changes to aircraft routes are measured by the potential for the selected project to result in increases in the number of bird strikes. Absent any wildlife attractant, birds tend to be randomly distributed, and

changing aircraft departure routes will not increase the potential for bird strikes. Wildlife attractants, such as wildlife refuges and breeding colonies exist in the Study Area beneath initial departure routes.

Aircraft fly over and near wildlife attractants presently and would continue to fly over and near wildlife attractants in the Future No Action alternative. After considering the changes to aircraft routes as a result of the selected project, while there are noticeable differences in the flight patterns as a result of the selected project, there are no discernable changes to the relationships of flight patterns to birds within the bird study area. Thus, the selected project will not have any significant impacts.

C. Threatened and Endangered Species

The FAA coordinated the Draft EIS with the U.S. Department of Interior, which provided comments from both the FWS and NPS by letter dated June 12, 2006. The Department expressed concerns that the information in the Draft EIS about noise and visual effects, federally listed species, and aircraft-bird collisions was insufficient, but that these could be corrected by incorporating the Department's recommendations for revisions into the FEIS in coordination with NPS and FWS. This section of the ROD summarizes coordination with FWS in response to the request to include conservation measures such

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as flight restrictions at airports during nesting periods to protect federally listed species from noise and visual changes. FWS recommended maintaining a minimum vertical distance of 2,000 feet above ground level or at least a 1-mile lateral distance from active nesting sites seasonally for each species.

The FAA obtained information from FWS regarding the location of nesting sites so that more detailed information could be provided concerning how the preferred alternative would affect the piping plover, roseate tern, and bald eagle in comparison to the No Action Alternative in the future. Since the bald eagle has been removed from the endangered species list and is no longer subject to protection under Section 7 of the Endangered Species Act, as requested we assessed compliance with the National Bald Eagle Guidelines. These guidelines indicate that aircraft should not be operated within 1,000 feet vertical of nests during the breeding season, except where eagles have demonstrated tolerance for such activity.

By letter dated August 27, 2007, FAA provided additional information to FWS in support of its no effect determination on these three listed species. FAA also assessed the operational feasibility of restricting landings and takeoffs to protect existing nesting sites off the ends of airport runways. As to the recommended flight restrictions to protect piping plover nesting sites and the separation criteria under the National Bald Eagle Guidelines, FAA confirmed that the distance between the closest flight tracks and

nesting sites near airports would be the same under the Preferred Alternative with or without mitigation as it is under the Future No Action Alternative/Existing Condition, citing circumstances at two airports. FAA also noted that because nesting at these distances currently occurs, piping plovers and eagles have demonstrated a tolerance for such activity. Although nesting sites of the roseate tern have not been confirmed for many years, there is no indication that circumstances would be different for roseate terns.

FWS staff requested more data comparing the distances between flight tracks under existing conditions and the preferred alternative for all identified nesting sites of the piping plover. Although the preferred alternative does not increase traffic generally, FAA was also asked to address and document the potential for increased flights over these sites at altitudes below 2,000 feet. The FAA responded on September 5, 2007 and requested concurrence in its determination of no effect for the roseate tern and the piping plover. On September 5, 2007 the FAA obtained FWS concurrence that the selected project is not likely to adversely affect the piping plover and roseate tern.

While the U.S. Department of Interior expressed no concerns about species in the Wallkill River National Wildlife Refuge, FAA recognized as part of its further review of Section 4(f) resources that the purpose of this refuge is to preserve threatened and endangered species. Species known to inhabit the refuge presently or in the past are the Indiana bat, bog turtle, dwarf wedge mussels, Mitchell's satyr (extirpated), and

American burying beetle (extirpated). Based on a review of the literature regarding effects of noise on animals, and the noise analysis indicating that the preferred alternative would not substantially change the noise environment, the FAA expressly determined in its August

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27, 2007 letter that the preferred alternative has no affect on these species. FAA sought concurrence as well regarding this determination.

On September 5, 2007 the FAA responded to the FWS and obtained FWS concurrence regarding these determinations of no effect.

7. Light Emissions and Visual Impacts

A. Light Emissions

To determine whether light emissions will create a significant impact, FAA considers the extent to which lighting associated with the project will create an annoyance among people in the vicinity or interfere with their normal activities.

Light emission impacts are most likely to occur at low altitudes and near the primary airports in the study area. Under current conditions, these areas are exposed to aircraft lights, and would continue to be exposed to aircraft lights under the Future No Action alternative. These same areas are most likely to be exposed to light emissions as a result of the selected

project. Because the areas most likely to be exposed to light emissions will be exposed to a similar level of light emissions both with and without the selected project, no significant light emission impacts will result.[15]

B. Visual Impacts

Generally, visual impacts result from the disturbance of the aesthetic integrity of an area. Because the selected project would not involve construction, alteration, or demolition of a facility, there would be no visual impacts from physical disturbance to the area. The selected project would cause more aircraft to be in areas in which they would not be under the Future No Action alternative. Changes to aircraft flight patterns at higher altitudes are not normally visually intrusive because of their distance from the ground. Changes at lower altitudes as a result of the selected project would occur predominantly near the primary airports in the study area where communities are currently exposed to the sight of aircraft and would continue to be exposed to the sight of aircraft with the Future No Action alternative. Thus, there are no significant visual impacts as a result of the selected project.

Visual impacts were also assessed in relation to Section 4(f) properties. See Section VI.4.B. and Appendix B of this ROD for a discussion of the visual impacts on Section 4(f) properties.

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[15]See FAA Orders 5050.4A and 5050.4B for guidance on the threshold of significance.

8. Air Quality

Air quality impacts are assessed by evaluating the impact of the proposed project on the National Ambient Air Quality Standards (NAAQS) for the six criteria pollutants. The

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impact of a project is the difference in emissions between an action alternative and the no action alternative in the future and how that projected difference would impact pollutant concentrations. Additionally, FAA must ensure that its project is in conformity with the state implementation plan (SIP) for attaining the NAAQS. Under Section 176(c) of the Clean Air Act, FAA may not engage in, support in any way, provide funding for, license, or approve any activity that does not conform to the purpose of the approved SIP. The U.S. Environmental Protection Agency's (EPA) adopted the General Conformity Rule (40 C.F.R. Part 93 subpart B) to provide guidance to Federal agencies in demonstrating conformity.

Under the General Conformity Rule, a project does not require a conformity determination if the project is exempt, presumed to conform, or if the net increase in annual emissions is less than the de minimis thresholds outlined in the Rule. A NAAQS assessment for NEPA purposes is typically not required for projects that are exempt or presumed to conform under the General Conformity Rule.

During the scoping process FAA consulted US EPA officials having jurisdiction within the study area, Regions 1, 2, and 3 to discuss the nature of the project and analysis of air quality impacts. During the meetings FAA explained to EPA officials that an air quality assessment was not required because the proposed airspace redesign actions were exempt from analysis under the General Conformity Rule as de minimis; the proposed action is not a capacity enhancement project and would not increase the total number of operations at airports in the study area; and the purpose and need for the project includes increasing efficiency and reducing delay which would serve to reduce fuel burn and air pollutant emissions.

EPA officials working with the FAA Office of Airports officials to develop a list of air traffic and airport actions presumed to conform[16] subsequently raised questions about the legal status of the exemption for "air traffic control activities and adopting approach, departure, and en route procedures for aircraft operations." Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule, 58 Fed. Reg. 63214, 63229, November 30, 1993. EPA staff raised these questions because the

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[16] 40 CFR §93.153(f).

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exemption for these activities was referenced in the Preamble, but not the final rule.[17] As a result of discussions with EPA staff, after determining that there was adequate supporting data, FAA deemed it prudent to include the activities described in the preamble to the General Conformity Rule as a presumed to conform action in the Final Notice that FAA published in the Federal Register, Vol. 72, No. 145, pp. 41565-41580 on July 30, 2007.

To determine whether reduced delays and more efficient flight routes would reduce fuel burn and respond to comments on the DEIS, FAA tasked a consultant to conduct a fuel burn analysis. The study projected fuel consumption on an average day in 2011

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[17]"Further, EPA believes that Federal actions which are de minimis should not be required by this rule to make an applicability analysis. A different interpretation could result in an extremely wasteful process which generates vast numbers of useless conformity determinations....Therefore, it is not necessary for a Federal agency to document emissions levels for a de minimis action. Actions that a Federal agency recognizes as clearly de minimis, such as actions that do not cause an increase in emissions, do not require positive conformity determination. ...to illustrate and clarify several de mimimis exemptions are listed in 51.853(c)(2). There are too many Federal actions that are de minimis to completely list in either the rule or this preamble. In addition to the list in the rule, the EPA believes that the following actions are illustrative of de minimis actions: ...(2) Air traffic control activities and adopting approach, departure, and enroute procedures for air operations." Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule, 58 Fed. Reg. 63214, 63229, November 30, 1993.

under the Future No Action Alternative, the Preferred Alternative, and the selected project. See Final EIS, Appendix R. The analysis of fuel consumption demonstrated that the selected project would result in a reduction in fuel consumption of 194.4 metric tons per day, compared to the No Action Alternative. This was slightly less than the Preferred Alternative, which would reduce fuel consumption by 205 metric tons per day compared to the No Action Alternative. As reduced fuel consumption is directly related to reducing air pollutant emissions, the fuel burn analysis further shows that the selected project is exempt because it would clearly reduce rather than increase emissions.

As discussed in the FEIS, based upon FAA's experience the proposed air traffic procedural changes will not induce growth in air or vehicular traffic or alter the distribution of air or vehicular traffic among airports. Such changes are not likely to change passenger airport preferences based upon ticket cost, airport location, and service to the desired destination.

Based upon the EIS and the clarification in the footnote below regarding regional significance, the proposed airspace redesign alternatives and the selected project are

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either exempt or presumed to conform under the General Conformity Rule.[18] As such, a detailed assessment under NEPA and a positive conformity determination under the Clean Air Act are not required. The selected project will not cause a new violation of the NAAQS, worsen an existing violation, or delay meeting the standards of the carbon monoxide, ozone, sulfur dioxide, and particulate matter NAAQS in the five states within the Study

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[18]The Final FAA Notice Federal Presumed to Conform Actions deferred action on the aspect of its Draft Notice relating to regional significance of presumed to conform actions based upon consultation with US EPA. However, the reasoning in the FAA's Air Quality Handbook cited in the Draft Notice indicates that theseemissions would not be regionally significant under 40 CFR §93.153(i). Even assuming, without conceding, that the proposed airspace redesign alternatives and the selected project cause a de minimis increase in emissions, they would not represent 10 percent or more of the total emissions of these pollutants in any area. The highest de minimis threshold level for the four pollutants of concern in the study area (CO, ozone, SO2, and PM 2.5 and PM 10) is 100 tons per year. The total emissions inventories for the relevant areas all exceed 1,000 tons per year for these four pollutants.

Area.[19] Moreover, because the selected project would reduce fuel burn compared to the Future No Action Alternative it would also reduce emissions of carbon dioxide and other greenhouse gases.

9. Natural Resources and Energy Supply

Order 1050.1E calls for major federal actions to be examined to identify whether the action would have a measurable effect on local supplies of energy or natural resources.

Neither the Future No Action alternative nor the selected project would involve construction or modification of a facility, thus the selected project would not involve an irretrievable commitment of natural resources. Additionally, as demonstrated in the fuel burn analysis, FEIS Appendix R, the selected project is expected to result in a decrease in the use of aviation fuel of approximately 66,840 gallons per day.

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[19]The study area includes the entire state of New Jersey and portions of Connecticut, Delaware, New York, and Pennsylvania. The geographic areas within the Study area that do not meet the National Ambient Air Quality Standards (i.e. non-attainment areas) or that were non-attainment and re-designated as attainment (i.e. maintenance areas) are discussed in Chapter 3 of the EIS. See, FEIS Tables 3.20-3.22 and Figures 3.20-3.22. The study area includes areas designated as maintenance for carbon monoxide (CO) and non-attainment for three other pollutants: ozone (8 hour standard), sulfur dioxide (SO2), and particulate matter (PM 10 and PM 2.5). No portion of the Study area is non-attainment or maintenance for nitrogen dioxide (NO2) or lead (Pb).

10. Construction Impacts

The selected project will not involve any construction activity and thus will have no construction impacts.

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11. Farmlands

The selected project will not involve any physical ground disturbance and will have no impacts on prime or unique farmland.

12. Coastal Resources

A. Coastal Zone Management

The states of Connecticut, Delaware, New Jersey, New York, and Pennsylvania have initiated coastal zone management programs (CMZP). Because there will be no impact to surface resources, the selected project will not have an impact on the CMZP for Connecticut, Delaware, New Jersey, New York, and Pennsylvania.

At the request of the state of Delaware, federal consistency determinations were prepared in accordance with each state's CMZP. Delaware concurred in the consistency determination. Connecticut, New Jersey, New York, and Pennsylvania did not respond to the consistency determination for its state. The FAA's consistency determinations can be found in Appendix K of the Final EIS.

B. Coastal Barriers

The selected project will not result in the development or physical alteration of facilities that would adversely affect resources protected in the Coastal Barrier Resource System.

13. Water Quality

The selected project will have no impacts to water quality because it does not involve the construction or physical alteration of facilities.

14. Wetlands

There will be no impacts to wetlands as a result of the selected project because it does not involve the construction or physical alteration of facilities.

15. Floodplains and Floodways

The selected project will not involve in the construction or physical alteration of facilities and would have no impact on Floodplains and Floodways.

16. Hazardous Materials, Pollution Prevention and Solid Waste

A. Hazardous Materials

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There will be no ground disturbances as a result of the selected project therefore it will not result in the

disturbance of materials identified as a substance capable of posing an unreasonable risk to health, safety, and property. Moreover, the selected project is not forecast to increase the level of aircraft operations in the study area over the Future No Action alternative. As a result, the selected project will not result in an increase in the generation of materials identified as a substance capable of posing an unreasonable risk to health, safety, and property.

B. Pollution Prevention

The selected project will increase the efficiency of the airspace, result in more direct routing, and decrease the use of fuel by 194 metric tons per average day. As a result the selected project will tend to decrease pollution in the study area.

C. Solid Waste

The selected project will not result in the long-term generation of municipal solid waste because it will not involve construction or the physical alteration of facilities.

17. Cumulative Impacts

A. Projects

CEQ defines cumulative impacts are the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of the agency undertaking the actions. Cumulative impacts can result from individually

minor but collectively significant actions taking place over a period of time. 40 C.F.R. §1508.7.

In analyzing the possible cumulative impacts of the Airspace Redesign project, FAA considered potential projects proposed in or near the study area. Project data was gathered from FAA, state DOT websites, Comprehensive Land Use Plans and other area and local plans. Because the impacts from the selected project were either noise or noise related, only those proposed projects that had the potential for cumulative noise impacts were considered. Four projects were determined to have the potential for cumulative noise impacts: Runway 17/35 Extension at PHL, Capacity Enhancement Program (CEP) at PHL, Part 150 Study at Bradley International Airport (BDL); and Board authorization for the Port Authority of New York and New Jersey (PANYNJ) to acquire the lease for Stewart International Airport (SFW).

The Runway 17/35 Extension at PHL is underway and is expected to be operational by early 2009. The Final EIS for the runway extension project indicates that the runway extension is expected to result in only a very minimal change in the noise pattern around PHL. Additionally, the runway extension project will not increase capacity at Philadelphia International. Therefore significant cumulative impacts are not expected.

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The purpose of the CEP at PHL is to increase the airfield capacity of Philadelphia International. The need for increased airfield capacity at Philadelphia International is independent of the selected project. While the CEP has the potential for cumulative impacts with the selected project, there has been no determination of the reasonable alternatives for the project and there is insufficient information to evaluate cumulative impacts at this time, especially as they relate to noise. The FAA is preparing an EIS for the CEP project, which will include a consideration of the selected project.

A Part 150 Study was developed for Bradley International which included a noise compatibility program involving airport-specific noise abatement measures. The selected project will not disturb the noise abatement measures resulting from the Bradley International Part 150 study. The noise compatibility program will have the effect of decreasing noise in the vicinity of Bradley International, and thus is not likely to have significant negative cumulative impacts.

In January 2007, the PANYNJ's Board of Commissioners authorized it to purchase the operating lease to SFW. The intention in the PANYNJ acquiring Stewart was to use it as a fourth airport for the New York/New Jersey Metropolitan Area, providing relief for the three major area airports in the form of delay reductions, and to prepare for inevitable population and passenger growth. As of July 2007, the PANYNJ was still in negotiations to acquire the lease. Even if

the PANYNJ is successful in acquiring Stewart, it is unclear whether airlines would be willing to operate at Stewart, especially in light of a recent announcement by American Airlines, the last scheduled passenger air carrier with service at Stewart, that it was ceasing service to the airport. This proposal is speculative and not reasonably foreseeable, thus was not considered in the evaluation of cumulative impacts.

The FAA also considered other airspace redesign projects in evaluating the potential for cumulative impacts. The FAA has issued RODs for airspace redesign projects for the Chicago Terminal Area (CTAP), and the Potomac Consolidated TRACON Airspace Redesign after completion of an EIS for each project. There was no overlap in the study areas for each of the projects with the study area of the selected project, and the CTAP and Potomac projects will not induce growth or increase capacity. The selected project will not result in significant cumulative impacts in combination with these projects.

The FAA issued a FONSI/ROD based on an Environmental Assessment (EA) for the Midwest Airspace Enhancement Airspace Redesign in the Cleveland/Detroit Metropolitan Areas. The study area for this project does not overlap the study area for the selected project and will not induce growth or increase capacity. No significant cumulative impacts will result from the selected project in combination with this project.

B. Ambient Comparison

FAA also looked at the potential for cumulative noise impacts by considering total noise, ambient noise, and aircraft noise. Noise measurement data, presented in Final EIS Appendix D, was analyzed in conjunction with the noise modeling computations for each noise measurement site in the study area. Such an analysis permitted FAA to consider

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the contribution of aircraft noise, including traffic operating under Visual Flight Rules, to the total noise at each site. This type of analysis can only be conducted specific to each noise measurement location, however it does provide insights into how the selected project contributes to the noise in the area.

Measured noise levels at each of the 18 noise measurement sites contains contributions from all noise sources, including both aircraft and non-aircraft sources. After completing the analysis, the details of which can be found in Section 4.18.2 of the Final EIS, it was clear that the changes in the total noise environment as a result of the selected project would be very small in the context of the total noise environment for locations that are not situated very near a major airport. This analysis supports the FAA's determination that there are no significant cumulative impacts as a result of the selected project in combination with other past, present, or reasonably foreseeable future actions.

VII. Public and Agency Involvement

The FAA followed NEPA guidelines and involved the public and other agencies in the impact assessment process. The public and agencies were given the opportunity to assist in determining the scope of issues to be addressed in this EIS during the informal prescoping and formal scoping period. After the scoping meetings, the FAA held a number of agency meetings, distributed newsletters, and created a website to educate, inform, and receive feedback from concerned citizens and organizations.

The pre-scoping process included a series of airspace redesign workshops. Thirty-one workshops were held throughout the Study Area between September 22, 1999, and February 3, 2000. A total of 1,174 people attended the workshops and 712 comments were received.

The formal scoping period was January 22, 2001 through June 29, 2001. The scoping process consisted of 28 public meetings and three agency meetings held in various locations throughout the Study Area. A total of 1,031 people attended the scoping meetings and 901 comments were received.

In addition to formal scoping meetings, the FAA met with agencies with jurisdiction or special knowledge relative to the Airspace Redesign project on an as needed basis. Typically, each meeting consisted of introductions, a slide show presentation, and a video on the NY/NJ/PHL Metropolitan Airspace Redesign project. The agencies were encouraged to share their

concerns or comments regarding the Airspace Redesign. The agency comments and concerns were used by the FAA in assembling the materials needed for the Draft EIS.

Throughout the development of the EIS, the FAA consulted with interested agencies and organizations. Table ES.7 of the Final EIS provides a sampling of the agencies and organizations consulted. (See Appendices L and M for additional information regarding agency consultation.) Periodic briefings were also given to members of Congress, the New Jersey and Delaware Congressional delegations, and various Governors' offices.

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The Draft EIS was distributed to interested federal, state, and local agencies, and citizens for review and comment. (See Chapter Nine for a comprehensive list.) Public information meetings were held for the Draft EIS from February 2006 through May 2006. On February 16, 2006 emails were sent to over 580 residents listing the specific meeting locations and on February 24, 2006 postcards were sent to over 3,200 residents with specific meeting locations. Each meeting was publicized through multiple local newspapers and radio stations. The public meeting process consisted of 30 meetings held in various locations throughout the Study Area. A total of 1,166 people attended the public meetings, and a total of 321 written and oral comments were received. The FAA reviewed and responded to all comments received during the comment period.

On April 6, 2007, the FAA published its Noise Mitigation Report, providing detailed information on mitigation measures for its Preferred Alternative. FAA informed the public of its availability through the FAA website and provided copies of the report to 71 libraries within the Study Area. FAA conducted seven public information meetings to discuss the Preferred Alternative and the proposed mitigation measures. The FAA accepted comments on the Noise Mitigation Report through May 11, 2007. Comments were also accepted at the Mitigation public information meetings held in June. Over 2,200 people attended the meetings, and approximately 1,700 written and oral comments were received.

The FAA engaged in several other initiatives to educate and involve the public in the Airspace Redesign Project. One of the primary initiatives was the project website. The project website was established in 2002 and provided both important project related information and the opportunity to submit comments to the FAA. Another initiative was the video format that was used to explain various stages throughout the study. Volume 4 of the video series specifically outlines noise abatement strategies and identifies the Preferred Alternative.

Although the public comment period had closed, at the request of Congressman Eliot Engle, FAA agreed to attend a meeting held in Rockland County, New York on July 30, 2007 to respond to questions and hear the concerns raised by citizens. Approximately one thousand people attended the meeting. A transcript of the meeting was taken by Rockland County and is

posted on the project web site at: www.faa.gov/nynjphl_airspace_redesign. A large majority of the people expressed a desire for FAA to adopt the No Action Alternative. Others expressed an interest in moving the arrival flight track which passes over Rockland County further to the west between 3 to 5 miles. Questions raised included whether FAA could increase the altitude of the flight tracks over Rockland County. One inquiry that was raised was whether the FAA could include a stipulation in the FAA's Record of Decision requiring commercial aircraft using the approach track to EWR be Stage 4 compliant by a specified year. In addition, there were a number of quality of life concerns. The comments at the Rockland County meetings were consistent with the comments received at the other meetings. These comments did not change the outcome of our decision.

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VIII. Comments on the FEIS

The FAA received six comment letters on the FEIS. Although not required, the FAA reviewed the comments and to the extent the commenter raised a new issue, the FAA herein provides a response.

Mr. Tim Stull, Manager of Air Traffic Systems at United Parcel Post (UPS)

EWR Night-time Ocean Routing would cause a significant operational burden to UPS, likely cause an increase in emissions over parts of Staten Island area and add significant complexity to the New York Metro

Air Traffic Area, increase flight time for departures which increase costs and potential for significant down-line disruption to our nework.

The commenter is correct that nighttime ocean routing will likely increase flight time for departures, fuel burn, and emissions and will require greater sophistication in traffic management. . The increase in demand at JFK since the operational analysis of this mitigation measure was completed has changed in the operating environment. Appendix O of the Final EIS states, "Since there are so few JFK flights affected during the nighttime hours between 0230 and 1000 GMT (Greenwich Mean Time), [night-time ocean routing] would not have an impact on the operations." This is no longer a completely accurate description of the night-time operations at JFK. Bad weather and volume during the day push JFK arrivals late into the night. On 32 days in June and July, JFK was accepting arriving aircraft at a rate of 30 per hour until midnight (0400 GMT). On 15 days, that rate continued until 1 AM (0500 GMT). These arrival rates are not compatible with ocean routing from EWR, since when the over-water airspace is already occupied by JFK arrivals, it is very inefficient to use it for crossing flows of EWR departures. In this operating environment, predictability also suffers. It will frequently not be known until the evening whether the ocean route is safe or not on any given night, so the dispatchers will not know in advance whether to plan for the extra flying time or not. As to increased fuel consumption, FEIS Appendix R shows that night-time ocean routing causes the fleet to burn (on average) seven metric tons per day of extra fuel. This reduces

the fuel-consumption benefit of the preferred alternative by some 3.5%. The FAA will carefully monitor traffic levels at JFK after we implement this mitigation measure to determine whether there are new circumstances that make it operationally infeasible. If it is necessary to revise or eliminate this measure then we will reevaluate the FEIS, undertake appropriate environmental review, and amend this ROD.

Kroposki

Mr. Michael Kroposki, Esq. makes five points:

> 1) *The acquisition of Stewart International Airport by the Port Authority means that future demand will be directed there. Traffic at EWR will not grow high enough to make redesigned airspace beneficial.*

Stewart International Airport is far from New York City. History shows that when a new airport farther from the population center is opened, it takes decades for traffic to build to

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levels that rival the old, close-in airport, even when laws are passed restricting use of the old airport. Examples are Dulles International and National Airport in Washington, and JFK and LaGuardia in New York. In Dallas, when Dallas-Ft. Worth International Airport opened, Love Field was

scheduled to be closed. Despite this, demand for close-in air service remained high enough that, thirty years later, Love Field is still an important airport, handling two-thirds as much traffic as LGA. It can not be assumed that the availability of Stewart will reduce demand at EWR in the foreseeable future.

2) *The forecast levels of traffic at EWR are too high. Realistic future traffic levels will be low enough that the delay savings in the Preferred Alternative will not be worth the extra mileage that aircraft must fly.*

The forecast levels of traffic for EWR used in the operational analysis were 1575 arrivals and departures on the 90th percentile day in 2006 and 1634 on the 90th percentile day in 2011. It is important to compare these numbers to high-traffic days, not to monthly or yearly totals. According to the FAA's official traffic reporting system, the Operations Network (or "OPSNET"), on the 90th percentile day of July 2006 EWR worked 1572 operations. The forecast was right on. The comparable number for July 2007 was 1554, less than 2% below the forecast. It is correct that traffic at EWR has effectively leveled off, but it has leveled off at the forecast level. The forecast growth in demand between 2006 and 2011 can not be refuted by pointing to counts of traffic actually handled, since the traffic actually handled is limited by the inefficiency of the current system. EWR was not forecast to be able to run dual arrivals in 2006, so actual counts match the forecast fairly well. Without dual arrivals, actual traffic at EWR may remain at the

current plateau (with small increases for improved technology), but unmet demand will continue to accumulate, dragging down the local economy. The 3-4% increase anticipated in the 90th percentile day in this study is a reasonable and prudent assumption.

3) *The 2011 forecast is not far enough in the future to satisfy the requirements of a five-year horizon for future traffic.*

This assertion seems to contradict the second point. If the traffic forecasts are too high for 2011, then they are certainly on target for some year after 2011. The increase in traffic between 2011 and 2012 will not be great enough to change the qualitative conclusions of this study, so the study remains valid.

4) *The forecasts are too high because future-year forecasts are based on an assumption of good weather on all days. A substantial portion of the delay savings can not be realized, because the airport is sometimes closed due to severe weather.*

It is not the purpose of an airspace redesign to increase efficiency at an airport that is closed by thunderstorms. The efficiency of the airspace design is most important on high-traffic days. When annualized benefit numbers are quoted, they include the effect of days when severe weather limits the traffic the modeled airports can handle.

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5) *Given that the dual arrivals at EWR are what necessitates the realignment of LGA traffic that is his particular concern, the LGA realignment should not be implemented until such time as EWR traffic has grown to require it.*

This is a valid point, and is well taken. As indicated above, EWR traffic has already grown to a point where dual arrivals would be a benefit to users of the airspace and to the local economy.

New Jersey Coalition Against Aircraft Noise (NJCAAN)

The letter from NJCAAN makes three points, since most of their cited sources discuss various techniques of demand management. First, the study did not include demand management, which can reduce delays more effectively than an airspace redesign. Second, that the Integrated Noise Model has been shown to underestimate noise from several types of aircraft, so the noise estimates in the study are incorrect. Third, that the increased flying distances in the Preferred Alternative will increase fuel consumption to a point that the fuel savings from decreased delay will be more than offset, and the result will be increased emissions from aircraft engines.

1) Demand Management obviates the need for airspace redesign.

In Appendix Q, comments on demand management received the response that the FAA did not include demand management as an alternative because "Changing access to the airport is the responsibility of the airport proprietor. The airport proprietor is unlikely to force its customers to operate in a manner that seems to them less profitable." The Port Authority of New York and New Jersey appears much closer to a demand management program in August 2007 than when Appendix Q was written, but the fundamental fact remains true: An airport operator is unlikely to let airport capacity go to waste. A change to larger aircraft will absorb the increase in passenger demand, but will not reduce the number of operations. For reasons stated above in the responses to Mr. Kroposki, the opening of Stewart International Airport is unlikely to affect EWR operations in the forecast time frame.

The INM underestimates aircraft noise.

Noise modeling with the INM and NIRS necessarily makes simplifying assumptions. The cited research shows that, under atmospheric conditions that cause the least attenuation of noise from aircraft, the INM underestimates single-event noise levels from Boeing 767-300 and 737-400 aircraft. The INM is almost exact for B747-400, and has some overestimates and some underestimates for the A320-111. This study was conducted in accordance with the techniques set out in FAA Order 1050.1E, which mandates the use of DNL

estimates calculated by INM and NIRS for noise studies, and sets thresholds for reportable noise changes. The thresholds are defined in terms of INM and NIRS results, not in terms of measured sound levels. Therefore, a systematic bias in the INM will not affect the validity of the study, since the same bias is present in the measurements and in the thresholds against which they are compared. The differences between the estimated noise levels and the thresholds will be correct.

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The Preferred Alternative will increase fuel consumption.

The Preferred Alternative requires some extra flying distance in order to avoid congestion, much the same way a freeway bypasses the traffic lights in town. When traffic levels are low, it is not worth it to take the freeway. However, as mentioned above, traffic levels in the summer of 2007 are already high enough that the extra mileage would be worth flying to reduce delays, and total fuel consumption will decrease.

Rockland County

The letter from the Chair of the Rockland County Legislature makes five points.

1) *The Noise Mitigation Analysis in Appendix P does not compare the mitigation of the Preferred Alternative with Future No Action, but only with the Preferred Alternative without mitigation.*

This is incorrect. Tables 4, 5, 8, 9, 11, 12, 13, and 14, and Figures 4, 5, 12, 13, 18, 19, 23, 24, 26, 27, 29, and 32 of Appendix P contain this information.

2) *The Modifications Alternative should be investigated, since "This would eliminate the "controversial Newark Runway 22 flight path over Rockland".*

The Modifications Alternative was thoroughly investigated in Appendices C and E of the EIS. Its benefits to the aviation system were found to be insufficient to make it the Preferred Alternative.

3) *Does the FAA have hard evidence on how 600 flights per day over Rockland County will affect air quality?*

Aircraft emissions affect air quality in two different ways. First, aircraft on the ground and at altitudes below the so-called "mixing layer" (usually about 1500-2000 feet above ground level) emit exhaust that behaves like car exhaust. It stays in the vicinity where it is generated, and can pollute the air near the airport. These low-altitude fuel emissions are reduced by the Preferred Alternative, but this is irrelevant to Rockland County, since the aircraft never come low

enough. Above the mixing layer, winds blow aircraft emissions around freely, so the effect is not localized. These emissions could affect Rockland County, as well as all other counties in the area. The fuel burn analysis in Appendix R shows that these emissions will decrease under the Preferred Alternative.

4) *How will flights over Rockland County, and the attendant risk of an aircraft disaster, affect the quality of the water in their aquifer?*

Flights over Rockland County are high enough that normal operations will not affect aquifers, which are underground. An aircraft crash could, as a tertiary effect, cause a small amount of toxins to get into the ground, which may affect an aquifer. The FAA is dedicated to reducing aircraft disasters as far as is humanly possible.

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5) *"Increased airplane noise will have a negative effect on the enjoyment of our open spaces as well as a negative effect on the fauna of our parks."*

The noise exposures in Rockland County under the Preferred Alternative, are higher than in the Future No Action Alternative, but they are at the bottom of the thresholds set in Federal regulations. Those thresholds were set by considering outdoor enjoyment, among other factors. When mitigation measures such as Continuous-Descent Approaches are included,

Rockland County noise exposures fall below the thresholds, and are not forecast to cause such negative effects.

Congressman Eliot L. Engel, dated 8/31/07

Comments noted. The points expressed in Congressman Eliot Engel's letter have been addressed individually in the Final EIS.

A transcript of the July 30, 2007 public meeting held at the request of Congressman Eliot Engle is available for review on the project web site at www.faa.gov/nynjphl_airspace_redesign.

On August 31, 2007, the FAA received an additional comment letter from attorneys representing Rockland County, New York. The FAA has completed a preliminary review of this letter and its attachments. The letter raises issues that have already been addressed by the FAA during the public comment process. As such, the FAA is not providing additional responses to this letter. A copy of this letter and attachments is included in Appendix D.

IX. Agency Findings

In accordance with all applicable laws, the FAA makes the following finding for this selected Project. These findings are based on a careful review of the EIS, appropriate supporting evidence and other relevant portions of the administrative record.

A. Airspace redesign will ensure the safety of aircraft and the efficient use of airspace. (49 U.S.C. 40103(b))

The Federal Aviation Act of 1958 gives the Administrator the authority and responsibility to assign by order or regulation the use of the navigable airspace in order to ensure the safety of aircraft and the efficient use of the airspace. In its effort to continually ensure safety of aircraft and improve the efficiency of transit through the navigable airspace, the FAA will modify aircraft routes and air traffic control procedures used in a 31,180 square miles area encompassing the entire state of New Jersey and portions of four other states: Connecticut, Delaware, New York, and Pennsylvania (the study area). The selected project will more efficiently deliver aircraft to and from airports in the study area, with limited affect on other airports in the study area. This will enhance the efficiency of the navigable airspace, while reducing the future environmental impact of aircraft operations in the NY/NJ/PHL metropolitan area.

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In choosing the selected project, the FAA evaluated a full range of alternatives for airspace redesign. The selected alternative will best accomplish the goals of airspace redesign, enhance the safety of aircraft, protect persons and property on the ground, and improve the efficiency of the airspace. Additionally, not only is the selected alternative effective at reducing overall noise exposure as compared to the original Preferred Alternative, but it also reduces noise relative

to the Future No Action Airspace Alternative for persons exposed to 65 DNL or greater noise levels in 2011.

B. This project does not involve the use of any historic sites or other properties protected under Department of Transportation Section - 303(c), also known as Section 4(f) or convert recreation areas protected under Land and Water Conservation Act Section 6(f).

The selected project does not involve physical development or modification of facilities and therefore results in no actual, physical use of resources protected under DOT Section 4(f) or conversion of properties protected under Land and Water Conservation Act Section 6(f). However, it would change airspace design and flight paths at some high and low altitudes to make more efficient use of existing airspace and airport runways. It has the potential to cause constructive use because it would increase flights over some areas and decrease flights over others, eliminate some flight paths and create some new flight paths.

The determination that the selected project would not cause a use of historic properties listed on or eligible for listing on the National Register of Historic Places is based upon consultation under Section 106 of the National Historic Preservation Act with the State Historic Preservation Officers in each State within the Study area.

As to constructive use of other 4(f) resources, the analysis in the EIS and the additional analysis

included in the ROD in response to DOI comments, confirm that the selected project would not cause increases in noise or other proximity impacts sufficient to impair the value of those resources. The additional analysis in the ROD focused upon parks and historic properties identified as having a quiet setting as a generally recognized purpose and attribute that were projected to experience increases in noise of 3 DNL dB or greater and those having important vistas. As a safeguard the FAA commits in this ROD to apply an adaptive management approach in implementing the selected project. Unlike putting a highway next to a sacred site, these revised flight paths are somewhat flexible and lend themselves to the use of adaptive management techniques.

C. There are no disproportionately high or adverse human or environmental effects from the project on minority or low-income populations. (Executive Order 12898)

The environmental justice analysis in the EIS examined the areas significantly impacted by noise for disproportionately high and adverse human and environmental impacts to low income and minority communities. FEIS Section 5.3.2 indicated that the addition of mitigation measures to the preferred alternative (the selected project) would cause significant noise impacts in a residential area west of PHL in 2006. However, the

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selected project would eliminate all potentially significant noise impacts by 2011. The population in the area significantly impacted in 2006 is not 50% minority, nor does the significantly impacted area contain a meaningfully greater percentage of minorities than the surrounding area. The median income in the significantly impacted area is above the poverty level. Additionally, reasonable efforts were made to involve minority and lowincome populations in the EIS process. Therefore, the selected project would not cause a disproportionately high and adverse human or environmental impact on minority or low income populations in 2006 or 2011.

D. Clean Air Act, Section 176 (c)(1) Conformity Determination (42 U.S.C.§7506 (c))

The DEIS, FEIS, and this ROD address general conformity requirements under the Clean Air Act. The selected project is an air traffic control activity and adoption of approach, departure, and en route procedures for air operations which is either exempt under 40 CFR 93.153(c) or presumed to conform and not regionally significant under 72 Fed Reg. 41565, July 30 2007. The fuel burn analysis in FEIS Appendix R confirms that the selected project will reduce fuel and emissions in comparison to the No Action Alternative and is therefore exempt from detailed analysis under the Clean Air Act. The analysis indicated that the Preferred Alternative with and without mitigation reduced fuel burn when compared to the Future No Action Alternative.

The NY/NJ/PHL Airspace Redesign would not result in development of physical facilities. Nor will it be likely to induce, change, or redistribute traffic in the airspace or at the airports in the study area. Air and vehicular traffic will continue to be governed by passenger preferences based upon ticket prices, airport location, and service to desired destinations, not the efficiency of air traffic procedures and airspace design. In sum, detailed analysis was not necessary to conclude that the selected project conforms with the purposes of the SIPs in the six States within the Study Area. By its very nature it will not cause a new violation of the NAAQS, worsen an existing violation, or delay meeting the standards of the carbon monoxide, ozone, sulfur dioxide, and particulate matter NAAQS in the six states within the Study Area.

E. The FAA has given this proposal the independent and objective evaluation required by the Council on Environmental Quality (40 CFR §1506.5)

As described in the NY/NJ/PHL Airspace Redesign Final EIS and in Section IV of this ROD [when almost complete, double check that Alternatives are still discussed in Section 3], FAA employed a detailed process in identifying reasonable alternatives that led to identification of a preferred alternative. Throughout, numerous FAA air traffic control specialists provided expertise and guidance on technical matters that arose during the formative steps. The FAA evaluated the technical feasibility of the Proposed Action and determined the alternatives to be evaluated for potential implementation. The

proposed NY/NJ/PHL Airspace Redesign represents the best judgment of the FAA in its key area of expertise: the safe, orderly and expeditious movement of air traffic.

Similarly, the FAA has conducted an independent review of the factual assumptions contained in the NY/NJ/PHL Airspace Redesign Final EIS. The process began with a

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competitive selection of an independent EIS contractor, continued throughout preparation of a Draft EIS and Final EIS and culminated in this ROD. Individuals from the FAA have devoted many hours to ensure compliance with NEPA and other environmental requirements. The Agency's responses to the public comments on the environmental impacts of the Proposed Action are detailed and comprehensive. This ROD also describes the great care and attention that was paid to public environmental concerns, particularly noise. Accordingly, the independent and objective evaluation called for by the Council on Environmental Quality has been provided.

F. Endangered Species Act, 16 U.S.C. Sections 1531-1544.

Pursuant to the Endangered Species Act (ESA), the FAA contacted the Fish and Wildlife Service and local authorities to compile a list of federally and stated endangered and threatened species in the Study Area. This list is set forth in Appendix G of the EIS. In the

DEIS and the FEIS, the FAA concluded that the proposed action will not have a significant impact on fish or plants because the proposed action does not require ground disturbance and does not modify critical habitat.

Subsequent to that finding, the FAA agreed to consider the Department of Interior's request to impose flight restrictions over piping plover, bald eagle and roseate tern nesting sites. The piping plover and bald eagle have established nests under the current air traffic situation and have demonstrated a tolerance for such activity. There is no currently no documented nesting sites for the roseate tern.

The FAA has determined that the bald eagle, a species that is no longer listed pursuant to the Endangered Species Act, is not affected by the selected project. The FAA has also determined that the selected project as compared to the no-action alternative does not affect the piping plover or the roseate tern On September 5, 2007, the FAA responded to the FWS and obtained FWS concurrence that the selected project is not likely to adversely affect these two species.

G. Responsibilities of Federal Agencies to Protect Migratory Birds (Executive Order 13186).

Executive Order 13186, enacted to further the purposes of the Migratory Bird Treaty Act (MBTA), recognizes the importance of migratory birds. The selected project includes changes in aircraft routes and thus the potential for bird strikes (for migratory and

nonmigratory) was assessed in the EIS. The Bird Strike Impact Assessment found that various bird categories are already impacted from operations at EWR, HPN, ISP, JFK, LGA and PHL. Each of these airports has a Wildlife Hazard Management Plan and are subject to a 2003 Memorandum of Agreement with the Fish and Wildlife Service and other federal agencies to address aircraft wildlife strikes. The selected project will not increase existing impacts to migratory birds. There are no significant impact to migratory birds from the selected Project.

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X. Decision and Order

In the Final EIS, the FAA identified the Integrated Airspace Alternative Variation with ICC as the Preferred Alternative for the NY/NJ/PHL Metropolitan Area Airspace Redesign Project. Among the alternatives studied, the Integrated Airspace Alternative with ICC best meets the purpose and need of the project, which is to improve the efficiency and reliability of the airspace structure and air traffic control system from southern Connecticut to eastern Delaware. Only the Integrated Airspace Alternative with ICC provides for considerable operational benefit. The Integrated Airspace Alternative with ICC is a new concept in airspace design. Currently, the airspace is a layered structure, consisting of en route and terminal airspace. Each layer includes a finite piece of airspace defined by lower and upper altitude limits and defined geographic boundaries. The Integrated Airspace Alternative with ICC would alter the limits

of these finite pieces of airspace such that several operational benefits would occur including:

- A reduction in the complexity of the current air traffic system operation in New York / New Jersey / Philadelphia,
- A reduction in delays and the expeditious arrival and departure of aircraft,
- Improved flexibility in routing aircraft,
- A more balanced controller workload, and
- An increase in the FAA's ability to meet system demands.

The FAA identified mitigation measures to minimize the potentially significant noise impacts of the preferred alternative, without substantially diminishing its benefits. Benefits of the selected project (the Integrated Airspace Alternative with ICC with mitigation) include:

- An estimated 20% reduction in airport delay, once implementation is complete, compared to the No Action Alternative. ROD Table 2.6
- Air traffic congestion nationwide is expected to cost $46 billion to the nation's economy in 2010. This includes costs to airlines and passengers, loss of service to people who wish to travel, and over 200,000 lost jobs in aviation and other industries. NY/NJ/PHL airspace will handle 15-20% of all the air traffic in the nation in 2011, so the inefficiencies addressed here could yield benefits to air carriers, passengers, and local businesses of $7 billion to $9 billion in 2011.

- Projected reduction in fuel consumption and emissions, including carbon dioxide and other greenhouse gas emissions. Once completely implemented, it is expected to reduce annual operating costs (largely fuel consumption) by $248 million and severe weather delay costs by another $37 million.
- Reduced noise exposure for more than one half million compared to the No Action Alternative.

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Decision

After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in Section 101 (a) of the National Environmental Policies Act of 1969 (NEPA) and that it will not significantly effect the quality of the human environment or otherwise include any condition requiring consultation pursuant to Section 102(2)(C) of NEPA.

Having carefully considered the aviation safety and operational objectives of this action, as well as being properly advised as to the anticipated environmental impacts, under the authority delegated to me by the Administrator of the FAA, I find that the action is reasonably supported, and I, therefore, direct the NY/NJ/PHL metropolitan area airspace redesign be implemented. Implementation of th selected project will begin as soon as practicable after the ROD. Based

on information from specialists in the agency, I estimate full implementation of the selected alternative to take five years.

Original signed on September 5, 2007.

_____ Date: _____

John G. McCartney
Acting Director, Terminal Operations
Eastern Service Area
Federal Aviation Administration

Right of Appeal: This decision is taken pursuant to 49 U.S.C. §§40101 et seq., and constitutes an order of the Administrator which is subject to review by the Courts of Appeal of the United States in accordance with the provisions of 49 U.S.C. §§46100.

Any party seeking to stay the implementation of this ROD must file an application with the FAA prior to seeking judicial relief, as provided in Rule 18(a), Federal Rules of Appellate Procedure.

I have reviewed the changes contained in the Errata to the Record of Decision dated September 14, 2007. The changes contained in the Errata are not substantive and have been incorporated within this corrected version of the ROD. The Corrected ROD does not alter the decision of September 5, 2007 in any way and is issued merely for ease of reference.

/s/ Date: 10/4/07

John G. McCartney
Acting Director, Terminal Operations
Eastern Service Area
Federal Aviation Administration

Appendices Omitted

APPENDIX C

United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 07-1363 **September Term 2008**
FAA-ROD 09/05/07
Filed On: August 19, 2009

County of Rockland, New York,

Petitioner

v.

Federal Aviation Administration,

Respondent

Consolidated with 07-1437, 07-1493, 07-1494, 07-1495, 07-1496, 07-1497, 07-1498 07-1499, 08-1105, 08-1106, 08-1107

BEFORE: Sentele, Chief Judge, and Ginsburg, Circuit Judge, and Randolph, Senior Circuit Judge

ORDER

Upon consideration of the petitions for panel rehearing filed by petitioners County of Rockland, New York, et al., County of Delaware, Pennsylvania, et al., and City of Elizabeth, New Jersey, et al., it is

ORDERED that the petitions be denied.

Per Curiam

FOR THE COURT:
Mark J. Langer, Clerk

BY: /s/
Michael G. McGrail
Deputy Clerk

APPENDIX D

42 U.S.C.§ 7401 provides:

(a) Findings

The Congress finds--

(1) that the predominant part of the Nation's population is located in its rapidly expanding metropolitan and other urban areas, which generally cross the boundary lines of local jurisdictions and often extend into two or more States;

(2) that the growth in the amount and complexity of air pollution brought about by urbanization, industrial development, and the increasing use of motor vehicles, has resulted in mounting dangers to the public health and welfare, including injury to agricultural crops and livestock, damage to and the deterioration of property, and hazards to air and ground transportation;

(3) that air pollution prevention (that is, the reduction or elimination, through any measures, of the amount of pollutants produced or created at the source) and air pollution control at its source is the primary responsibility of States and local governments; and

(4) that Federal financial assistance and leadership is essential for the development of cooperative Federal, State, regional, and local programs to prevent and control air pollution.

(b) Declaration

The purposes of this subchapter are--

(1) to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population;

(2) to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution;

(3) to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and

(4) to encourage and assist the development and operation of regional air pollution prevention and control programs.

(c) Pollution prevention

A primary goal of this chapter is to encourage or otherwise promote reasonable Federal, State, and local governmental actions, consistent with the provisions of this chapter, for pollution prevention.

APPENDIX E

42 U.S.C. § 7506 provides:

(a), (b) Repealed. Pub.L. 101-549, Title I, § 110(4), Nov. 15, 1990, 104 Stat. 2470

(c) Activities not conforming to approved or promulgated plans

(1) No department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve, any activity which does not conform to an implementation plan after it has been approved or promulgated under section 7410 of this title. No metropolitan planning organization designated under section 134 of Title 23, shall give its approval to any project, program, or plan which does not conform to an implementation plan approved or promulgated under section 7410 of this title. The assurance of conformity to such an implementation plan shall be an affirmative responsibility of the head of such department, agency, or instrumentality. Conformity to an implementation plan means--

(A) conformity to an implementation plan's purpose of eliminating or reducing the severity and number of

violations of the national ambient air quality standards and achieving expeditious attainment of such standards; and

(B) that such activities will not--

(i) cause or contribute to any new violation of any standard in any area;

(ii) increase the frequency or severity of any existing violation of any standard in any area; or

(iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The determination of conformity shall be based on the most recent estimates of emissions, and such estimates shall be determined from the most recent population, employment, travel and congestion estimates as determined by the metropolitan planning organization or other agency authorized to make such estimates.

(2) Any transportation plan or program developed pursuant to Title 23 or chapter 53 of Title 49 shall implement the transportation provisions of any applicable implementation plan approved under this chapter applicable to all or part of the area covered by such transportation plan or program. No Federal agency may approve, accept or fund any transportation plan, program or project unless such plan, program or project has been found to conform to any applicable implementation plan in effect under this chapter. In particular--

(A) no transportation plan or transportation improvement program may be adopted by a metropolitan planning organization designated under Title 23 or chapter 53 of Title 49, or be found to be in conformity by a metropolitan planning organization until a final determination has been made that emissions expected from implementation of such plans and programs are consistent with estimates of emissions from motor vehicles and necessary emissions reductions contained in the applicable implementation plan, and that the plan or program will conform to the requirements of paragraph (1)(B);

(B) no metropolitan planning organization or other recipient of funds under Title 23 or chapter 53 of Title 49 shall adopt or approve a transportation improvement program of projects until it determines that such program provides for timely implementation of transportation control measures consistent with schedules included in the applicable implementation plan;

(C) a transportation project may be adopted or approved by a metropolitan planning organization or any recipient of funds designated under Title 23 or chapter 53 of Title 49, or found in conformity by a metropolitan planning organization or approved, accepted, or funded by the Department of Transportation only if it meets either the requirements of subparagraph (D) or the following requirements--

(i) such a project comes from a conforming plan and program;

(ii) the design concept and scope of such project have not changed significantly since the conformity finding regarding the plan and program from which the project derived; and

(iii) the design concept and scope of such project at the time of the conformity determination for the program was adequate to determine emissions.

(D) Any project not referred to in subparagraph (C) shall be treated as conforming to the applicable implementation plan only if it is demonstrated that the projected emissions from such project, when considered together with emissions projected for the conforming transportation plans and programs within the nonattainment area, do not cause such plans and programs to exceed the emission reduction projections and schedules assigned to such plans and programs in the applicable implementation plan.

(E) The appropriate metropolitan planning organization shall redetermine conformity of existing transportation plans and programs not later than 2 years after the date on which the Administrator--

(i) finds a motor vehicle emissions budget to be adequate in accordance with section 93.118(e)(4) of title 40, Code of Federal Regulations (as in effect on October 1, 2004);

(ii) approves an implementation plan that establishes a motor vehicle emissions budget if that budget has not yet been determined to be adequate in accordance with clause (i); or

(iii) promulgates an implementation plan that establishes or revises a motor vehicle emissions budget.

(3) Until such time as the implementation plan revision referred to in paragraph (4)(C) is approved, conformity of such plans, programs, and projects will be demonstrated if--

(A) the transportation plans and programs--

(i) are consistent with the most recent estimates of mobile source emissions;

(ii) provide for the expeditious implementation of transportation control measures in the applicable implementation plan; and

(iii) with respect to ozone and carbon monoxide nonattainment areas, contribute to annual emissions reductions consistent with sections 7511a(b)(1) and 7512a(a)(7) of this title; and

(B) the transportation projects--

(i) come from a conforming transportation plan and program as defined in subparagraph (A) or for 12 months after November 15, 1990, from a transportation program found to conform within 3 years prior to November 15, 1990; and

(ii) in carbon monoxide nonattainment areas, eliminate or reduce the severity and number of violations of the carbon monoxide standards in the area substantially affected by the project.

With regard to subparagraph (B)(ii), such determination may be made as part of either the conformity determination for the transportation program or for the individual project taken as a whole during the environmental review phase of project development.

(4) Criteria and procedures for determining conformity

(A) In general

The Administrator shall promulgate, and periodically update, criteria and procedures for determining conformity (except in the case of transportation plans, programs, and projects) of, and for keeping the Administrator informed about, the activities referred to in paragraph (1).

(B) Transportation plans, programs, and projects

The Administrator, with the concurrence of the Secretary of Transportation, shall promulgate, and periodically update, criteria and procedures for demonstrating and assuring conformity in the case of transportation plans, programs, and projects.

(C) Civil action to compel promulgation

A civil action may be brought against the Administrator and the Secretary of Transportation under section 7604 of this title to compel promulgation of such criteria and procedures and the Federal district court shall have jurisdiction to order such promulgation.

(D) The procedures and criteria shall, at a minimum--

(i) address the consultation procedures to be undertaken by metropolitan planning organizations and the Secretary of Transportation with State and local air quality agencies and State departments of transportation before such organizations and the Secretary make conformity determinations;

(ii) address the appropriate frequency for making conformity determinations, but the frequency for making conformity determinations on updated transportation plans and programs shall be every 4 years, except in a case in which--

(I) the metropolitan planning organization elects to update a transportation plan or program more frequently; or

(II) the metropolitan planning organization is required to determine conformity in accordance with paragraph (2)(E); and

(iii) address how conformity determinations will be made with respect to maintenance plans.

(E) Inclusion of criteria and procedures in SIP

Not later than 2 years after August 10, 2005, the procedures under subparagraph (A) shall include a requirement that each State include in the State implementation plan criteria and procedures for consultation required by subparagraph (D)(i), and enforcement and enforceability (pursuant to sections 93.125(c) and 93.122(a)(4)(ii) of title 40, Code of Federal Regulations) in accordance with the Administrator's criteria and procedures for consultation, enforcement and enforceability.

(F) Compliance with the rules of the Administrator for determining the conformity of transportation plans, programs, and projects funded or approved under Title 23 or chapter 53 of Title 49 to State or Federal implementation plans shall not be required for traffic signal synchronization projects prior to the funding, approval or implementation of such projects. The supporting regional emissions analysis for any conformity determination made with respect to a transportation plan, program, or project shall consider the effect on emissions of any such project funded, approved, or implemented prior to the conformity determination.

(5) Applicability

This subsection shall apply only with respect to--

(A) a nonattainment area and each pollutant for which the area is designated as a nonattainment area; and

(B) an area that was designated as a nonattainment area but that was later redesignated by the Administrator as an attainment area and that is required to develop a maintenance plan under section 7505a of this title with respect to the specific pollutant for which the area was designated nonattainment.

(6) Notwithstanding paragraph 5, [FN1] this subsection shall not apply with respect to an area designated nonattainment under section 7407(d)(1) of this title until 1 year after that area is first designated nonattainment for a specific national ambient air quality standard. This paragraph only applies with respect to the national ambient air quality standard for which an area is newly designated nonattainment and does not affect the area's requirements with respect to all other national ambient air quality standards for which the area is designated nonattainment or has been redesignated from nonattainment to attainment with a maintenance plan pursuant to section 7505a of this title (including any pre-existing national ambient air quality standard for a pollutant for which a new or revised standard has been issued).

(7) Conformity horizon for transportation plans

(A) In general

Each conformity determination required under this section for a transportation plan under section 134(i) of Title 23 or section 5303(i) of Title 49 shall require a demonstration of conformity for the period ending on either the final year of the transportation plan, or at

the election of the metropolitan planning organization, after consultation with the air pollution control agency and solicitation of public comments and consideration of such comments, the longest of the following periods:

(i) The first 10-year period of any such transportation plan.

(ii) The latest year in the implementation plan applicable to the area that contains a motor vehicle emission budget.

(iii) The year after the completion date of a regionally significant project if the project is included in the transportation improvement program or the project requires approval before the subsequent conformity determination.

(B) Regional emissions analysis

The conformity determination shall be accompanied by a regional emissions analysis for the last year of the transportation plan and for any year shown to exceed emission budgets by a prior analysis, if such year extends beyond the applicable period as determined under subparagraph (A).

(C) Exception

In any case in which an area has a revision to an implementation plan under section 7505a(b) of this title and the Administrator has found the motor vehicles emissions budgets from that revision to be adequate in accordance with section 93.118(e)(4) of

title 40, Code of Federal Regulations (as in effect on October 1, 2004), or has approved the revision, the demonstration of conformity at the election of the metropolitan planning organization, after consultation with the air pollution control agency and solicitation of public comments and consideration of such comments, shall be required to extend only through the last year of the implementation plan required under section 7505a(b) of this title.

(D) Effect of election

Any election by a metropolitan planning organization under this paragraph shall continue in effect until the metropolitan planning organization elects otherwise.

(E) Air pollution control agency defined

In this paragraph, the term "air pollution control agency" means an air pollution control agency (as defined in section 7602(b) of this title) that is responsible for developing plans or controlling air pollution within the area covered by a transportation plan.

(8) Substitution of transportation control measures

(A) In general

Transportation control measures that are specified in an implementation plan may be replaced or added to the implementation plan with alternate or additional transportation control measures--

(i) if the substitute measures achieve equivalent or greater emissions reductions than the control measure to be replaced, as demonstrated with an emissions impact analysis that is consistent with the current methodology used for evaluating the replaced control measure in the implementation plan;

(ii) if the substitute control measures are implemented--

(I) in accordance with a schedule that is consistent with the schedule provided for control measures in the implementation plan; or

(II) if the implementation plan date for implementation of the control measure to be replaced has passed, as soon as practicable after the implementation plan date but not later than the date on which emission reductions are necessary to achieve the purpose of the implementation plan;

(iii) if the substitute and additional control measures are accompanied with evidence of adequate personnel and funding and authority under State or local law to implement, monitor, and enforce the control measures;

(iv) if the substitute and additional control measures were developed through a collaborative process that included--

(I) participation by representatives of all affected jurisdictions (including local air pollution control agencies, the State air pollution control agency, and State and local transportation agencies);

(II) consultation with the Administrator; and

(III) reasonable public notice and opportunity for comment; and

(v) if the metropolitan planning organization, State air pollution control agency, and the Administrator concur with the equivalency of the substitute or additional control measures.

(B) Adoption

(i) Concurrence by the metropolitan planning organization, State air pollution control agency and the Administrator as required by subparagraph (A)(v) shall constitute adoption of the substitute or additional control measures so long as the requirements of subparagraphs (A)(i), (A)(ii), (A)(iii) and (A)(iv) are met.

(ii) Once adopted, the substitute or additional control measures become, by operation of law, part of the State implementation plan and become federally enforceable.

(iii) Within 90 days of its concurrence under subparagraph (A)(v), the State air pollution control agency shall submit the substitute or additional control measure to the Administrator for incorporation in the codification of the applicable implementation plan. Notwithstanding [FN2] any other provision of this chapter, no additional State process shall be necessary to support such revision to the applicable plan.

(C) No requirement for express permission

The substitution or addition of a transportation control measure in accordance with this paragraph and the funding or approval of such a control measure shall not be contingent on the existence of any provision in the applicable implementation plan that expressly permits such a substitution or addition.

(D) No requirement for new conformity determination

The substitution or addition of a transportation control measure in accordance with this paragraph shall not require--

(i) a new conformity determination for the transportation plan; or

(ii) a revision of the implementation plan.

(E) Continuation of control measure being replaced

A control measure that is being replaced by a substitute control measure under this paragraph shall remain in effect until the substitute control measure is adopted by the State pursuant to subparagraph (B).

(F) Effect of adoption

Adoption of a substitute control measure shall constitute rescission of the previously applicable control measure.

(9) Lapse of conformity

If a conformity determination required under this subsection for a transportation plan under section 134(i) of Title 23, or section 5303(i) of Title 49, or a transportation improvement program under section 134(j) of such title 23 or under section 5303(j) of such title 49 is not made by the applicable deadline and such failure is not corrected by additional measures to either reduce motor vehicle emissions sufficient to demonstrate compliance with the requirements of this subsection within 12 months after such deadline or other measures sufficient to correct such failures, the transportation plan shall lapse.

(10) Lapse

In this subsection, the term "lapse" means that the conformity determination for a transportation plan or transportation improvement program has expired, and thus there is no currently conforming transportation plan or transportation improvement program.

(d) Priority of achieving and maintaining national primary ambient air quality standards

Each department, agency, or instrumentality of the Federal Government having authority to conduct or support any program with air-quality related transportation consequences shall give priority in the exercise of such authority, consistent with statutory requirements for allocation among States or other jurisdictions, to the implementation of those portions of plans prepared under this section to achieve and

maintain the national primary ambient air-quality standard. This paragraph extends to, but is not limited to, authority exercised under the Urban Mass Transportation Act, Title 23, and the Housing and Urban Development Act.

APPENDIX F

49 U.S.C. § 46110

(a) Filing and venue.--Except for an order related to a foreign air carrier subject to disapproval by the President under section 41307 or 41509(f) of this title, a person disclosing a substantial interest in an order issued by the Secretary of Transportation (or the Under Secretary of Transportation for Security with respect to security duties and powers designated to be carried out by the Under Secretary or the Administrator of the Federal Aviation Administration with respect to aviation duties and powers designated to be carried out by the Administrator) in whole or in part under this part, part B, or subsection (l) or (s) of section 114 may apply for review of the order by filing a petition for review in the United States Court of Appeals for the District of Columbia Circuit or in the court of appeals of the United States for the circuit in which the person resides or has its principal place of business. The petition must be filed not later than 60 days after the order is issued. The court may allow the petition to be filed after the 60th day only if there are reasonable grounds for not filing by the 60th day.

(b) Judicial procedures.--When a petition is filed under subsection (a) of this section, the clerk of the court immediately shall send a copy of the petition to

the Secretary, Under Secretary, or Administrator, as appropriate. The Secretary, Under Secretary, or Administrator shall file with the court a record of any proceeding in which the order was issued, as provided in section 2112 of title 28.

(c) Authority of court.--When the petition is sent to the Secretary, Under Secretary, or Administrator, the court has exclusive jurisdiction to affirm, amend, modify, or set aside any part of the order and may order the Secretary, Under Secretary, or Administrator to conduct further proceedings. After reasonable notice to the Secretary, Under Secretary, or Administrator, the court may grant interim relief by staying the order or taking other appropriate action when good cause for its action exists. Findings of fact by the Secretary, Under Secretary, or Administrator, if supported by substantial evidence, are conclusive.

(d) Requirement for prior objection.--In reviewing an order under this section, the court may consider an objection to an order of the Secretary, Under Secretary, or Administrator only if the objection was made in the proceeding conducted by the Secretary, Under Secretary, or Administrator or if there was a reasonable ground for not making the objection in the proceeding.

(e) Supreme Court review.--A decision by a court under this section may be reviewed only by the Supreme Court under section 1254 of title 28.

APPENDIX G

5 U.S.C. 706 provides:

To the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law, interpret constitutional and statutory provisions, and determine the meaning or applicability of the terms of an agency action. The reviewing court shall--

(1) compel agency action unlawfully withheld or unreasonably delayed; and

(2) hold unlawful and set aside agency action, findings, and conclusions found to be--

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

(B) contrary to constitutional right, power, privilege, or immunity;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;

(D) without observance of procedure required by law;

(E) unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute; or

(F) unwarranted by the facts to the extent that the facts are subject to trial de novo by the reviewing court.

In making the foregoing determinations, the court shall review the whole record or those parts of it cited by a party, and due account shall be taken of the rule of prejudicial error.

APPENDIX H

28 U.S.C. § 2111 provides: "On the hearing of any appeal or writ of certiorari in any case, the court shall give judgment after an examination of the record without regard to errors or defects which do not affect the substantial rights of the parties."

APPENDIX I

40 C.F.R. 93.153 provides in relevant parts:

(a) Conformity determinations for Federal actions related to transportation plans, programs, and projects developed, funded, or approved under title 23 U.S.C. or the Federal Transit Act (49 U.S.C. 1601 et seq.) must meet the procedures and criteria of 40 CFR part 51, subpart T, in lieu of the procedures set forth in this subpart.

(b) For Federal actions not covered by paragraph (a) of this section, a conformity determination is required for each criteria pollutant or precursor where the total of direct and indirect emissions of the criteria pollutant or precursor in a nonattainment or maintenance area caused by a Federal action would equal or exceed any of the rates in paragraphs (b)(1) or (2) of this section.

> (1) For purposes of paragraph (b) of this section, the following rates apply in nonattainment areas (NAA's):

	Tons/year
Ozone (VOC's or NOX):	
Serious NAA's	50
Severe NAA's	25
Extreme NAA's	10
Other ozone NAA's outside an ozone transport region	100
Other ozone NAA's inside an ozone transport region:	
VOC	50
NOX	100
Carbon monoxide: All NAA's	100
SO2 or NO2: All NAA's	100
PM-10:	
Moderate NAA's	100
Serious NAA's	70
PM2.5:	
Direct emissions	100
SO2	100
NOX (unless determined not to be a significant precursor)	100
VOC or ammonia (if determined to be significant precursors)	100
Pb: All NAA's	25

(2) For purposes of paragraph (b) of this section, the following rates apply in maintenance areas:

	Tons/year
Ozone (NOX, SO2 or NO2):	
All Maintenance Areas	100
Ozone (VOC's):	
Maintenance areas inside an ozone transport region	50
Maintenance areas outside an ozone transport region	100
Carbon monoxide: All Maintenance Areas	100
PM-10: All Maintenance Areas	100
PM2.5:	
Direct emissions	100
SO2	100
NOX (unless determined not to be a significant precursor)	100
VOC or ammonia (if determined to be significant precursors)	100
Pb: All Maintenance Areas	25

(c) The requirements of this subpart shall not apply to the following Federal actions:

(1) Actions where the total of direct and indirect emissions are below the emissions levels specified in paragraph (b) of this section.

(2) Actions which would result in no emissions increase or an increase in emissions that is clearly de minimis:

(i) Judicial and legislative proceedings.

(ii) Continuing and recurring activities such as permit renewals where activities conducted will be similar in scope and operation to activities currently being conducted.

(iii) Rulemaking and policy development and issuance.

(iv) Routine maintenance and repair activities, including repair and maintenance of administrative sites, roads, trails, and facilities.

(v) Civil and criminal enforcement activities, such as investigations, audits, inspections, examinations, prosecutions, and the training of law enforcement personnel.

(vi) Administrative actions such as personnel actions, organizational changes, debt management or collection, cash management, internal agency audits, program budget proposals, and matters relating to the administration and collection of taxes, duties and fees.

(vii) The routine, recurring transportation of materiel and personnel.

(viii) Routine movement of mobile assets, such as ships and aircraft, in home port reassignments and stations (when no new support facilities or personnel are required) to perform as operational groups and/or for repair or overhaul.

(ix) Maintenance dredging and debris disposal where no new depths are required, applicable permits are secured, and disposal will be at an approved disposal site.

(x) Actions, such as the following, with respect to existing structures, properties, facilities and lands where future activities conducted will be similar in scope and operation to activities currently being conducted at the existing structures, properties, facilities, and lands; for example, relocation of personnel, disposition of federally-owned existing structures, properties, facilities, and lands, rent subsidies, operation and maintenance cost subsidies, the exercise of receivership or conservatorship authority, assistance in purchasing structures, and the production of coins and currency.

(xi) The granting of leases, licenses such as for exports and trade, permits, and easements where activities conducted will be similar in scope and operation to activities currently being conducted.

(xii) Planning, studies, and provision of technical assistance.

(xiii) Routine operation of facilities, mobile assets and equipment.

(xiv) Transfers of ownership, interests, and titles in land, facilities, and real and personal properties, regardless of the form or method of the transfer.

(xv) The designation of empowerment zones, enterprise communities, or viticultural areas.

(xvi) Actions by any of the Federal banking agencies or the Federal Reserve Banks, including actions regarding charters, applications, notices, licenses, the supervision or examination of depository institutions or depository institution holding companies, access to the discount window, or the provision of financial services to banking organizations or to any department, agency or instrumentality of the United States.

(xvii) Actions by the Board of Governors of the Federal Reserve System or any Federal Reserve Bank necessary to effect monetary or exchange rate policy.

(xviii) Actions that implement a foreign affairs function of the United States.

(xix) Actions (or portions thereof) associated with transfers of land, facilities, title, and real properties through an enforceable contract or lease agreement where the delivery of the deed is required to occur promptly after a specific, reasonable condition is met, such as promptly after the land is certified as meeting the requirements of CERCLA, and where the Federal agency does not retain continuing authority to control emissions associated with the lands, facilities, title, or real properties.

(xx) Transfers of real property, including land, facilities, and related personal property from a Federal entity to another Federal entity and assignments of real property, including land, facilities, and related personal property from a Federal entity to another Federal entity for subsequent deeding to eligible applicants.

(xxi) Actions by the Department of the Treasury to effect fiscal policy and to

exercise the borrowing authority of the United States.

(3) Actions where the emissions are not reasonably foreseeable, such as the following:

(i) Initial Outer Continental Shelf lease sales which are made on a broad scale and are followed by exploration and development plans on a project level.

(ii) Electric power marketing activities that involve the acquisition, sale and transmission of electric energy.

(4) Actions which implement a decision to conduct or carry out a conforming program such as prescribed burning actions which are consistent with a conforming land management plan.

APPENDIX J

Final Environmental Impact Statement,
New York/New Jersey/Philadelphia
Metropolitan Area Airspace Redesign

APPENDIX R

EFFECT OF THE NY/NJ/PHL METROPOLITAN AREA AIRSPACE REDESIGN ON AIRCRAFT FUEL CONSUMPTION

MP 070122
MITRE PRODUCT

Effect of the New York/NewJersey/ Philadelphia Airspace Redesign on Aircraft Fuel Consumption

June 2007

Dr. Jonathan H. Hoffman

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[iii]

Abstract

The New York/New Jersey/Philadelphia (NY/NJ/PHL) Airspace Redesign proposes substantial changes to aircraft routing and airport and airspace efficiency. As part of the process of developing a Final Environmental Impact Statement (EIS), aircraft fuel consumption in the Preferred Alternative and Mitigated Preferred Alternative is compared to that in the Future No Action Alternative. The Preferred Alternative airspace design would reduce fuel consumption in the study area by about 205 metric tons on the average day in 2011. Mitigation measures proposed to reduce noise exposure burn more fuel than the Preferred Alternative; the Mitigated Preferred Alternative would reduce fuel consumption by about 194 metric tons.

KEYWORDS: Airspace, Airspace Redesign, EDMS, Environmental Impact, Fuel Consumption, Mitigation, New Jersey, New York, Philadelphia, TAAM

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1 Introduction

The Integrated Airspace Alternative with Integrated Control Complex (ICC) has been identified by the Federal Aviation Administration (FAA) as the Preferred Alternative for the New York/New Jersey/Philadelphia (NY/NJ/PHL) Metropolitan Airspace Redesign project. This alternative, as described in Section 2.5 of the Draft Environmental Impact Statement (EIS),

> "...involves full airspace consolidation, as well as modifications to multiple departure gates, additional arrival posts, and additional departure headings. This variation represents a full airspace consolidation and is a new approach to the redesign of airspace from NY to Philadelphia. Where current en route airspace separation rules of five nautical miles are typically used, this airspace redesign

alternative would use three nautical mile terminal airspace separation rules over a larger geographical area and up to 23,000 feet MSL in some areas. The ICC airspace would be comprised of the majority of current NY TRACON and NY Center airspace, as well as some sectors from Washington Center and Boston Center. Boston Center could take the high-altitude parts of the current NY Center airspace structure."[1]

The Integrated Airspace Alternative with ICC makes some relatively high-altitude airspace design changes, as well as some low-altitude changes to maximize the use of the limited runway capacity available in the New York and Philadelphia metropolitan areas. These changes have an impact on aircraft emissions, because they change flying times and flight patterns.

Several dozen of the comments received on the Draft EIS raised the issue of aircraft emissions. Concern about emissions came from local elected officials, special interest groups, and other agencies of the federal government. In response to these comments, The MITRE Corporation's Center for Advanced Aviation System Development (CAASD) undertook a re-run of its operational efficiency simulations to obtain estimates of the impact on fuel consumption of the Preferred Alternative and the Mitigated Preferred Alternative.

Operational efficiency of an air traffic control system is typically measured in terms of time at a

fixed level of traffic. Delay time, extra flying time, and time below a particular altitude have all been used in the operational analyses for the EIS. This paper presents the methods by which efficiency measured in time was converted to efficiency measured in fuel, and an estimate of the relative change in fuel consumption attributable to the two Alternatives. It is intended to accompany the Final EIS for the airspace redesign, so it does not restate the details of the redesign or mitigation measures. Details are available in the operational analyses that have been previously undertaken, which form appendices to the Draft EIS. [2]

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[2 - *page omitted in original*]

[3]

2 Modeling Approach

Operational-efficiency simulations of the various Alternative airspace designs were built with the Total Airspace and Airport Modeller (TAAM) [3]. These simulations required minor changes to configuration and output settings to be used for fuel consumption analysis, as well as some additional parameters from two auxiliary models.

2.1 Operational Simulations

The operational and noise analyses of the Preferred Alternative required simulations of the

annual-average day of traffic for 2011 in the study area. Two configurations of the five largest airports were included. The two configurations were combined to give an annual-average figure using the same weightings as they received in the operational analysis.

TAAM generates by default a measure of the total fuel consumption in the simulation. This fuel consumption measure takes into account:

- Distance flown by an unimpeded aircraft
- Extra time flown due to delays for sequencing to a runway
- Extra time flown due to delays for merging and spacing on an airway
- Climb and descent profiles

The first two items are by far the most important factors in a fuel consumption analysis.

Because the fidelity of the simulation is minimal outside a range of 200 miles from New York City, the absolute fuel consumption metric in any simulation by itself is not particularly meaningful. (For an extreme example, transatlantic traffic is not modeled beyond the entrance to the North Atlantic Track System.) Only the difference between the fuel consumption in two simulations is valid for assessing the impact of the redesign.

2.2 Auxiliary Models

2.2.1 Fuel-Flow Integrator

CAASD's Integrated Terminal Research, Analysis and Evaluation Capabilities [4] include a "fuel-flow integrator" that is derived from the Eurocontrol Total Energy Model. The fuel-flow integrator is much more controllable via input configuration files than is TAAM, so it can give estimates of fuel consumption in cases where fine distinctions between air traffic control procedures are necessary.

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[4]

2.2.2 Emissions and Dispersion Modeling System

The Emissions and Dispersion Modeling System (EDMS) "is one of the few air quality assessment tools specifically engineered for the aviation community."[1] It is used for local air quality analyses around airports. The modeling system is primarily concerned with ground operations of aircraft and other vehicles on the airport surface.

EDMS contains a database of most of the aircraft engines currently in use in the US. The

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[1] The official FAA information site for the model is at http://www.faa.gov/about/office_org/headquarters_offices/aep/models/edms_model/

database is coordinated with that of the Noise Integrated Routing System, so every flight in the 2011 forecast traffic could be directly related to an EDMS engine type. This database was used for taxi-out operations.

2.3 Corrections to TAAM Fuelburn Numbers

The default fuel consumption estimate in TAAM requires some correction in order to be useful in this context. First, for reasons of processing time, the full alternatives were simulated with no gate and taxiway modeling. Second, due to limitations in the structure of TAAM itself, as aircraft are sequenced for the runway, the fuel they consume is overestimated.

2.3.1 Taxi-Out Delay

The time taken and fuel consumed by aircraft as they taxi from their gates to the runway was not included in the operational analysis simulations. The delays aircraft could expect as they lined up for the runway was estimated, but an aircraft waiting at an airport with no taxiway structure does not consume fuel.

This was corrected by use of the EDMS fuel consumption database. That model converts time spent waiting (independent of cause) into fuel consumption for each aircraft, depending on engine type.

It is assumed for this analysis that gate allocation for aircraft is the same in all alternatives.

2.3.2 Delay by Speed Control

TAAM delays aircraft for sequencing to the runway or for spacing along a jet airway first by speed control. If the aircraft can not absorb enough time by slowing down, vectoring is the second choice. As the aircraft is flying under air traffic control instructions combining vectoring and speed control, TAAM does not change the fuel consumption. A real aircraft, when instructed to absorb delay, slows down to its minimum-fuel speed, so TAAM will overestimate fuel consumption when the aircraft is being sequenced.

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[5]

The fuel-flow integrator, described above, can compensate for this over-simplification. Three different types of jets, a small regional jet, a Boeing 737-500, and a Boeing 747-400, were instructed to fly profiles that absorbed a fixed amount of time, first at their normal cruise speed, then at their minimum-fuel speed. The altitudes were chosen to match those of the most-used vectoring areas in the Future No Action and Preferred Alternative.

Table 1. Fuel Corrections to Speed-Controlled Aircraft

Aircraft Type	Delay Absorbed	Fuel Consumption Change
Embraer ERJ-145	2 min at 10,000 ft	22.7 kg
Boeing 737-500	2 min at 10,000 ft	45.5 kg
Boeing 747-400	2 min at 10,000 ft	0

Each aircraft delayed was matched to the most-similar type of aircraft. Delays up to the maximum speed-control plus vectoring time were credited with the appropriate amount of excess fuel consumption.

2.3.3 Delay by Holding

The aircraft performance model in TAAM has a holding speed, but not a holding fuel consumption. Holding fuel consumption will be less, by the same arguments as for speed control and vectoring.

In all cases, the holding speed matched the minimum-fuel speed calculated by the fuel-flow integrator, so the same method could be applied. The fuel-consumption changes in Table 1 were used for holding times up to 15 minutes.

2.3.4 Delay at Departure Airports

When an aircraft arriving at one of the modeled airports was delayed more than 15 minutes of holding, plus three minutes for speed control and (typically) four minutes absorbable via vectoring, it was assumed that traffic flow management programs would be initiated to moderate the volume at the destination.

These traffic flow management programs were not explicitly modeled in the operational simulations for the Draft EIS. Only the total delay was needed. When the volume of arrivals was too great for the airport to handle without large delays, arriving aircraft were held outside the simulated area. However, there is a substantial difference between ten minutes of fuel burned while holding and ten minutes of fuel burned while waiting to take off. Fuel consumed during the excess delays, therefore, was subtracted from the total for the simulation. Even if the aircraft engines were running during that delay, it was on the ground far from the study area, so it can be assumed not to affect the conclusions we wish to draw about the environmental consequences of this airspace redesign.

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[5]

3 Results

3.1 Preferred Alternative versus Future No Action

The corrections to the fuel consumption calculated by TAAM typically amounted to about 3% of the total for departure delays (added to the default calculation) and 1-2% for arrivals (subtracted from the calculation).

Table 2 shows the results of the fuel calculation. To simplify the data analysis and validation, the simulation was broken up into sections corresponding to each major airport. "Internals" are flights that both depart from and arrive at one of the simulated airports. Consumption of fuel in the Preferred Alternative is reduced by 205 metric tons (204,920 kg) compared to the Future No Action Alternative, or 66,840 gallons per (average) day.[2]

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[2] Specific gravity of jet fuel was obtained from the Material Safety Data Sheet at http://www.chevronglobalaviation.com/docs/aviation_turbine_fuel.doc

Table 2. Fuel Consumption by Airport (kg/annual average day)

Airport	Future No Action Fuel Consumption	Preferred Alternative Fuel Consumption	Preferred Alternative Benefit
EWR	6,640,480	6,583,252	57,229
PHL	4,743,119	4,686,764	56,355
JFK	8,328,735	8,287,755	40,980
LGA+HPN	2,874,567	2,841,432	33,135
Internals	57,175	42,943	14,232
ISP	278,473	265,729	12,745
TEB+MMU	527,269	537,024	-9,755
Total	16,809,338	16,661,646	204,920

Several qualitative features visible in Table 2:

- The overall conclusion of the operational analysis is repeated here. Many flights must fly more miles of ground track, but on balance the reduction in delay is worth the extra miles, in fuel as in delay.

- Fuel savings to EWR traffic are diminished because the arrival delay benefits are accomplished by opening a new runway, which entails longer flying distances.

- EWR and PHL traffic see the biggest benefit in terms of fuel consumption because they have the most traffic.

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[8]

- JFK has the highest absolute numbers because it has the highest percentage of international flights by heavy jets, but its benefit are smaller than those at EWR or PHL because of lower overall traffic.

- Delay savings at LGA are large, but the overall savings are smaller than at JFK because the jets that fly there are smaller.

- TEB and MMU flights actually see a small penalty. The low-altitude portions of the arrival and departure procedures are longer to separate them from EWR traffic to the greatest extent possible. Traffic at these airports in Future No Action does not experience the large runway delays seen at the larger airports, so the only delay savings at these airports come from the airway congestion.

- Internal flights show a much larger benefit, compared to the total fuel consumption, than any other sub-simulation. This is because very short flights are usually the most delayed – long-haul flights have generally reserved all the landing slots before the internal flight is ready to take off, so the internal flight goes to the back of a very long line. Any improvement in delay, therefore, will be felt most by the internal flights.

3.2 Effect of Mitigation

The differences between the Preferred Alternative and the Mitigated Preferred Alternative [5] do not affect delays to any great extent [6]. They tend to be routing decisions made on a case-by case basis, so fuel consumption for the Mitigated Preferred Alternative was calculated via perturbations of the Preferred Alternative. That is, each flight changing its track as a result of the mitigation (these flights were previously identified for the noise analysis) is updated in the fuel consumption analysis according to the mitigated track.

Table 3 shows the effect of each mitigation measure on all traffic. In this table, a positive number is an increase in fuel consumption; a negative number denotes a decrease. Note that only one of the impacts is of the same order of magnitude as the benefits of the Preferred Alternative. The "weighted effect" column gives the annualized impact of each mitigation measure that applies only to one airport configuration, taking into account the frequency with which that configuration is used.

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[9]

Table 3. Fuel Consumption Impact of Mitigation Measures

Airport	Mitigation	Fuel Consumption Increase (kg)	Weight Effect (kg)
PHL	3 West Headings	3,330	2,498
	4 East headings	690	173
	River Departures at Night	371	278
	River Approach	-1,727	-432
	Night-time CDA	-165	-165
EWR	Night Ocean Routing	13,306	7,318
	22R Departure Headings	1,595	877
	Raised Downwind Legs	0	0
	Night-time CDA	-65	-65

LGA	Reduced Headings from 31	0	0
	LDA approach to 22	0	0
HPN	Northwest departure track	0	0
Total		19,062	10,482

Most mitigation measures increase fuel consumption, since the Preferred Alternative favored minimum-time tracks at low altitudes, and the shortest-time track is usually the minimum-fuel track. Many mitigation measures sacrificed the shortest-time track for some flights in order to reduce noise exposure. A reduction in the number of departure headings could have either a positive or a negative impact. Reducing headings from one-per-gate to a smaller set increases track length, and therefore fuel consumption, for some flights while reducing it for others. The net effect is a small increase at EWR and PHL, zero at LGA.

PHL departures over the Delaware River at night causes only a small increase, since only a few flights are affected. Implementation of a river approach creates a shorter flight track for flights from the south side of the approach control. Flights from the north side do not use the river approach (that would

increase noise exposure), so net fuel consumption is reduced.

Night-time ocean routing causes a large increase in fuel consumption. Almost a quarter of the fuel savings at EWR attributable to the Preferred Alternative would be offset by increased fuel consumption of ocean-routed flights.

Raising the downwind leg from 6,000 to 8,000 ft at EWR has no measurable impact on fuel consumption. The distance flown by the flight remains the same, the airspeed is not affected, and most jet aircraft consume fuel at the same rate at the higher altitude as they do at the lower.

Continuous-descent arrivals decrease fuel consumption. However, at the low altitudes where they are possible in this airspace, the benefit is inconsequential. Almost all of the fuel benefits of continuous-descent arrivals occur in the vicinity of the top-of-descent point. The low-altitude portion of a continuous descent approach benefits noise exposure only.

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[10]

The two remaining mitigation measures are small lateral displacements of the trajectory in the Preferred Alternative. These displacements shorten some flight tracks and lengthen others, but none by

more than a mile or two. The impact on fuel consumption is invisibly small.

3.3 Fuel Consumption in the Mitigated Preferred Alternative

Subtracting the bottom line of Table 3 from the bottom line of Table 2, we find that the Mitigated Preferred Alternative saves 194.4 metric tons of fuel on an average day. Annually, the savings in 2011 would total 71,000 metric tons of fuel, or 23.4 million gallons. This is slightly less than the fuel consumption savings of 24.6 million gallons per year in the Preferred Alternative.

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[11]

4 Conclusion

The NY/NJ/PHL Airspace Redesign has been shown in previous work to increase the efficiency of air traffic control operations in the study area. The flight-time and delay savings described in the Operational Analysis appendix to the EIS relate directly to reductions in fuel consumption, and the related emission of pollutants. This paper has estimated the effect on fuel consumption of the Preferred Alternative and the Mitigated Preferred Alternative. Table 4 summarizes the qualitative effects of each part of the Alternatives that affects fuel consumption.

Table 4. Summary of Fuel Consumption Impacts

Airport	System Change	Preferred Alternative	Mitigated Alternative	Emissions Impact vs. Future No Action
All	Realigned airways and fixes	x	x	Mixed increases and decreases
	Delay Reduction	x	x	Decrease
LGA	Departure Headings	x		Decrease
	Expanded LDA approach		x	Near zero
EWR	Dual Arrivals	x	x	Decrease
	Departure Headings	x		Decrease
			x	Reduction of decrease
	Raised Downwind		x	Near Zero

	Midnight Ocean		x	Increase
	Routing		x	Increase
	CDA Improved Runway		x	Decrease
JFK	Usage x		Decrease	
ISP	Shorter air routes	x		Decrease
PHL	Departure	x		Decrease
			x	Reduction of decrease
	River RNAV Approach		x	Decrease
	Night River Departure		x	Near zero
	CDA Northwest departure		x	Decrease
HPN	track		x	Near zero

Fuel consumption was estimated by using a trio of computer models: Overall aircraft performance while airborne was determined in a TAAM simulation. Fuel

consumed on the ground was estimated via data adapted from the EDMS. Corrections to the fuel consumption due to expanded use of speed control in the Preferred Alternative were obtained from the Fuel Flow Integrator.

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[12]

The Preferred Alternative would reduce fuel consumption on an average day in 2011 by almost 205 metric tons, compared to the Future No Action Alternative. Mitigation measures to reduce noise exposure cause more fuel to be burned, compared to the Preferred Alternative, though it still represents a saving over No Action. The Mitigated Preferred Alternative would reduce fuel consumption by just over 194 metric tons per day.

4.1 Limitations of the Study

Only differences among the alternatives are valid in this study. Absolute numbers are not operationally meaningful, since flights are not modeled in great detail anywhere more than 200 miles from New York City. Traffic at smaller airports in the study area is held constant across the alternatives, so it was excluded from the calculations.

This study did not attempt to distinguish fuel burned below the mixing layer at each airport from fuel burned above. Over such a large study area, the total fuel consumed was a more appropriate metric.

Fuel burned by service vehicles on the airport surface is typically part of an airport emissions analysis. It is not included here. Service vehicle emissions are assumed constant over all alternatives in this study because the flight schedules do not change.

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[13]

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[*12 - page omitted in original*]

[13]

Glossary

CAASD	Center for Advanced Aviation System Development
EDMS	Emissions and Dispersion Modeling System
EIS	Environmental Impact Statement
EWR	Newark Liberty International Airport
FAA	Federal Aviation Administration
HPN	Westchester County Airport
ICC	Integrated Control Complex
ISP	Long Island MacArthur Airport
JFK	John F. Kennedy International Airport
LGA	LaGuardia Airport
MMU	Morristown Municipal Airport
NJ	New Jersey
NY	New York
PHL	Philadelphia
TAAM	Total Airspace and Airport Modeller
TEB	Teterboro Airport

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APPENDIX K

STATEMENT OF ARLENE B. FELDMAN, REGIONAL ADMINISTRATOR FOR THE EASTERN REGION, FEDERAL AVIATION ADMINISTRATION BEFORE THE AVIATION SUBCOMMITTEE OF THE HOUSE TRANSPORTATION AND INFRASTRUCTURE COMMITTEE ON AIR TRAFFIC DEPARTURES AT NEWARK INTERNATIONAL AIRPORT, NOVEMBER 4, 1999

Mr. Chairman, Mr. Lipinski, and Members of the Committee:

Thank you for the opportunity to appear here this morning to discuss with the Members of this Subcommittee and other interested Members of the Congress the Federal Aviation Administration's ("FAA") air traffic control of departing aircraft at Newark International Airport. I am Arlene Feldman, the Regional Administrator of the FAA for the Eastern Region. With me today is Mr. Franklin Hatfield, the manager of the air traffic division in the Eastern Region.

Almost four years ago to the day, I appeared before this Subcommittee with former Administrator David Hinson when he came before you to discuss the FAA's record of decision of the environmental impact

statement on the Expanded East Coast Plan ("EECP") for air traffic management. I am pleased to have the opportunity to update the Subcommittee on recent developments in air traffic management, and in particular, with regard to departures from Newark International Airport ("Newark").

Let me begin with a brief review of the history. In the early 1980's, the FAA saw that it would be impossible for the then existing air traffic routes over the East Coast to handle the growing demand for airline travel. The advent of deregulation in 1978 brought explosive growth in air traffic. The biggest bottleneck in the East Coast system was the New York-New Jersey metropolitan area. Needless to say, the bottlenecks at New York-New Jersey had a ripple effect throughout the entire National air traffic system. The EECP was developed to change the aircraft routes and air traffic procedures in a way that would permit each of the major New York-New Jersey airports to more efficiently handle air traffic. This was a very ambitious plan at that time; one of the most far reaching changes the FAA ever made to the air traffic system.

With the implementation of the EECP we saw dramatic effects in the airspace system — delays were reduced, airlines were able to plan their flights more efficiently and controllers found that the new air traffic procedures let them handle more traffic without compromising safety. However, the EECP also produced unavoidable consequences. These new air traffic routes began to take aircraft over parts of New Jersey, which, until 1987, had not experienced the air traffic associated with these new routes. As a result,

communities throughout Northern New Jersey began to experience increases in noise levels they found unacceptable.

Newark International Airport has three runways: one east-west runway (11-29) and two parallel north-south runways, 22 left and right ("22 L/R"). Staten Island is south of the airport and there are communities, such as the City of Elizabeth, which are southwest. Since 1952, aircraft departing runway 22 have turned south to avoid over-flying the city of Elizabeth. Since 1961, departures from Newark off runway 22 L/R have climbed to approximately 500 feet, at which point the aircraft make a left turn, heading 190 degrees. This departure route avoids over-flying the densely populated areas of Elizabeth. This route passes over an industrial area located between the City of Elizabeth and a waterway, known as the Arthur Kill, and then over the northwest corner of Staten Island. As air traffic operations at Newark have increased, residents of New York and New Jersey have been requesting a change to air traffic procedures to reduce noise in their communities.

Pursuant to the Aviation Safety Capacity Expansion Act of 1990, the FAA undertook an environmental impact statement ("EIS") to assess the effects of changes in aircraft flight patterns at altitudes of 3,000 feet above ground level, caused by the implementation of the EECP over New Jersey. After an extensive and lengthy process of study, including opportunities for public comment for approximately 500 days and a public hearing on Staten Island, the FAA took final action on the EIS by issuing a Record of Decision

("ROD") on October 31, 1995. The FAA decided to continue the procedures of the EECP, but adopted a measure to reduce noise for residents of New Jersey. This mitigation measure, called the Solberg Mitigation Proposal, was implemented in April 1996 and continues to be used for departures at Newark.

Even with the adoption of the EECP with the Solberg Mitigation Proposal, we know that citizens in communities in New Jersey and New York continue to experience levels of noise that they find unacceptable. In the Record of Decision, the FAA recognized the complexity of the airspace in the New York-New Jersey metropolitan area and the need for a comprehensive solution. When I was here in 1995, I stated that even with the decisions made with the EECP, we in the Eastern Region would continue to work with the Port Authority of New York and New Jersey ("Port Authority") and the local communities to explore alternatives to reduce noise and revise air traffic procedures and routes. In addition to the Solberg Mitigation Proposal, in the Record of Decision the FAA committed to undertake a follow-on regional study to address the metropolitan New York area.

Let me reiterate that Administrator Garvey and all of us in the Eastern Region are dedicated to working with the Port Authority to find a fair and balanced approach to address the issue of aircraft noise. But let me also state that noise abatement is a shared responsibility. The Port Authority has primary responsibility for abatement actions in the area surrounding Newark airport, whereas our primary role is to assure the safety and efficiency of air traffic

operations. In that regard, at the request of the Port Authority, we have taken some measures to test ways to alleviate aircraft noise.

In 1996, based on a request from the Port Authority, a test over a four month period in 1993, and an environmental assessment, the FAA revised the standard instrument departure procedures for runway 22L/R to implement a second turn to the right to a heading of 220 degrees at 2.3 nautical miles.

In 1998, again at the request of the Port Authority, the FAA tested a change in the current standard instrument departure. Working with the Port Authority, we recognized that just south of Newark Airport and the City of Elizabeth, there is a heavy industrial area over which we could direct aircraft. This would require a variation in the heading from 220 degrees to 260 degrees. We conducted a test of the 260-degree heading ("260 test") from March until September 1998, followed by an environmental assessment. At the onset of the preparation of this environmental assessment, a variety of public agencies and other interested parties were notified of the proposed action and alternatives, and comments were requested.

Earlier this week, we released the conclusions of the environmental assessment. As a result of the analyses conducted and continued operational evaluation of the departure routing, it was determined that there was no significant environmental benefit derived from the alternative routing to 260 degrees. We have discontinued the environmental assessment because of

the lack of operational benefit that would be derived by modifying the Newark procedure in the current overall configuration of airspace in the region.

At the same time that we began conducting the 260 test, in April 1998, Administrator Garvey announced the National Airspace Redesign project. As the Administrator testified before you last month, the National Airspace Redesign will be part of the FAA's efforts to improve air traffic management. The goals of the redesign project are: to maintain and improve system safety; improve the efficiency of the air traffic management and reduce delays; increase system flexibility and predictability; and seek to reduce adverse environmental effects on communities in and around our Nation's airports. While we expect that the complete redesign will take approximately eight years, we anticipate that tangible benefits are expected in the eastern portion of the United States within five years. The most congested and complicated airspace is what we in the FAA refer to as the Eastern Triangle. This consists of most of the airspace east of the Mississippi River. The redesign project will also include analysis of the enroute air traffic control centers that feed traffic into this area. Because this airspace poses the most challenges, it is the initial focus of our redesign.

The New York/New Jersey Metropolitan Airspace Redesign Project will encompass the New York, New Jersey and Philadelphia metropolitan areas and will also include air traffic affecting Connecticut, Delaware and Pennsylvania. There are over 8,000 flights a day into and out of the New York/New Jersey metropolitan area, more than any other major metropolitan area in

the U.S., accommodating 300,000 passengers and 10,000 tons of cargo. One of our stated goals is to enhance the environment to the degree consistent with safety and efficiency, both with noise abatement and improvements in air quality. Within this context, we intend to fully examine possible revisions to departure patterns at Newark, including an ocean routing concept for day and night traffic, as well as the straight-out departure concept.

As Administrator Garvey told you in her last appearance, in the Eastern Region, we have already begun our community workshops in locations throughout the New York and New Jersey metropolitan area. These workshops are designed to provide a forum for early public involvement prior to any airspace redesign project initiatives. We are eager to solicit public comments and suggestions with respect to airspace redesign initiatives. These workshops are not limited to environmental concerns, but are open to a full range of community ideas. All comments will be compiled and reviewed by the FAA during the redesign process. Once design alternatives have been formulated, we will initiate a formal National Environmental Policy Act ("NEPA") process. During the NEPA process, we will revisit the communities and hold public meetings or hearings to solicit further environmental concerns and input.

We are sensitive to the concerns of the citizens living in and around Newark International Airport. We will continue to work in partnership with the Port Authority, community leaders and with you, the Members of Congress, to reach a balanced and fair

approach to the issues at Newark. Throughout the redesign project, we will look for every opportunity to reduce the affects of unwanted aircraft noise for the citizens of New Jersey and New York. Indeed, as we move forward with our redesign project, we will take intermediate steps, consistent with NEPA, that may develop during the process provided that they will not adversely affect the safe and efficient management of air traffic to Newark, or to the neighboring airports.

Mr. Chairman, this concludes my statement. Both Mr. Hatfield and I would be happy to answer any questions that you or the other Members of the Subcommittee may have.

APPENDIX L

EXCERPTS FROM DRAFT ENVIRONMENTAL IMPACT STATEMENT

NEW YORK/NEW JERSEY/PHILADELPHIA METROPOLITAN AREA AIRSPACE REDESIGN

[*Graphic Omitted*]

VOLUME ONE: DOCUMENTATION

December 2005

Prepared by:

United States Department of Transportation
Federal Aviation Administration

[4-57]

located within the Study Area was completed. A summary of the potential changes in flights over Tribal Lands resulting from the Proposed Action Airspace Redesign alternatives is shown in **Table 4.21**.

The Ocean Routing Airspace Alternative, Integrated Airspace Alternative Variation without ICC, and Integrated Airspace Alternative Variation with ICC would result in moderate changes in aircraft routes in the vicinity of the Ramapough Mountain Indian lands. Since this area is already subject to extensive overflights, no significant visual impacts would be expected.

The Integrated Airspace Alternative Variation with ICC also results in moderate change to aircraft routes over the Schaghticoke Reservation. Changes to routes over the Schaghticoke Reservation are unlikely to result in significant visual impacts because this area is currently exposed to regular overflights.

Therefore, the implementation of any of the Airspace Redesign alternatives would not result in significant visual impacts to Tribal lands within the Study Area.

4.9 AIR QUALITY

The FAA met with the representatives of EPA Regions 1, 2 and 3 to discuss the Proposed Action alternatives

and analysis of air quality impacts. (EPA Regions 1, 2, and 3 have jurisdiction over areas with the Study Area.) During these meetings the FAA indicated that no air quality analysis would be undertaken. Several reasons were provided to explain the FAA's assertion that no detailed air quality analysis was required and that no significant air quality impacts would result from the implementation of the Proposed Action. These reasons were:

- The Proposed Action alternatives examined in this Draft EIS are exempt from analysis under the General Conformity Rule. The final rule for Determining Conformity of General Federal Actions to State and Federal Implementation Plans[18] was published in the Federal Register in 1993.[19] In Section 51.853 (c)(1), the Environmental Protection Agency (EPA) lists actions that are *de minimis* and, thus, do not require an applicable analysis under this rule. EPA states in the preamble to this regulation that it believes, "air traffic control activities and adopting approach, departure, and en route procedures for air operations" are illustrative of *de minimis* actions.

- The Proposed Action is not a capacity enhancement project. The total number of

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[18] 40 CFR Parts 6, 51, and 93.

[19] 40 C.F.R. Parts 6, 51, and 93. United States Government Printing Office, World Wide Web Address: www.access.gpo.gov, July 2001.

aircraft operations would not differ between the Future No Action Alternative and the other Airspace Redesign Alternatives.

- The purpose and need for the Proposed Action includes increasing efficiency and reducing delay in the airspace system. Qualitatively, reduction of delay and more efficient flight routings would serve to reduce fuel burn and thereby reduce air pollutant emissions.

In response to these coordination meetings, the EPA indicated that induced changes to vehicular traffic were a concern to the Agency.

APPENDIX M

EXCERPTS FROM FINAL ENVIRONMENTAL IMPACT STATEMENT

NEW YORK/NEW JERSEY/PHILADELPHIA METROPOLITAN AREA AIRSPACE REDESIGN

[*Graphic Omitted*]

VOLUME ONE: DOCUMENTATION

July 2007

Prepared by:

United States Department of Transportation
Federal Aviation Administration

[ES-8]

New York/New Jersey/Philadelphia Metropolitan Area Airspace Redesign EIS

The Modifications to Existing Airspace Alternative increases departure efficiency to the west by fanning headings and by splitting the major westbound airway (J80) into two independent airways. This alternative has small benefits.

The Ocean Routing Airspace Alternative will increase route distance and flying time for EWR, LGA, and JFK. Departure efficiency at EWR is greatly reduced. JFK arrivals and departures share one part of the airspace, thereby increasing complexity. The reroute of departures from EWR and JFK increases airspace complexity above PHL which is already a bottleneck in the en route system. These drawbacks are not offset by operational benefits.

Like the Modifications to Existing Airspace Alternative, the Integrated Airspace Alternative Variation without ICC increases departure efficiency to the west by fanned headings and by splitting the major westbound airway (J80) into two independent airways. In addition, this variation reduces congestion on the South departure gate. This variation shows a slight increase in required interfacility voice communications.

The Integrated Airspace Alternative Variation with ICC provides the most substantial operational benefit

of any of the designs. It is a wholesale restructuring of arrival and departure routes. Efficiency is increased by more use of available runways and departure headings. Airspace delays are reduced and route flexibility is enhanced. Flying distances are increased for many flights, but the delay reductions are large enough to make this a net benefit to traffic.

ES.4 STUDY AREA

The Study Area is defined as the geographic area potentially environmentally impacted by the proposed action. The Proposed Airspace Redesign Project Study Area encompasses the entire state of New Jersey and portions of four other states: Connecticut, Delaware, New York, and Pennsylvania (See **Figure ES.1**). The Study Area is comprised of approximately 31,180 square miles and encompasses all or portions of 64 counties, 490 independent cities, as well as other municipal areas.

Criterion from FAA Order 1050.1E was used to determine the Study Area for the Proposed Airspace Redesign. According to FAA Order 1050.1E, the altitude ceiling for environmental considerations regarding airspace studies is 10,000 feet above ground level AGL. The highest point in the Study Area is 4,000 feet MSL at Hunter Mountain, New York, making the overall altitude ceiling of the Study Area 14,000 feet MSL (resulting in 10,000 feet AGL). Thus, using input from the Airspace Redesign Team, the Study Area was created to encompass the geographic areas where proposed changes to aircraft routes occurred below 14,000 MSL. This Study Area is then

the basis for the analysis of the alternatives and their potential impacts associated with alternative routings for aircraft flying IFR at altitudes up to 14,000 feet MSL.

ES.5 STUDY AREA AIRPORTS

Because there are many public and private airports in the Study Area, the air traffic flows to and from these airports are highly interrelated. The NY/NJ/PHL Metropolitan Area Airspace Redesign focuses on five major airports and 16 satellite airports in the Study Area. The five major airports are as follows:

- John F. Kennedy International (JFK),
- LaGuardia (LGA),

[ES-9]

- Newark Liberty International (EWR),
- Teterboro (TEB), and
- Philadelphia International (PHL).

The 16 satellite airports are as follows:

- Allentown/Lehigh Valley International (ABE),

- Atlantic City International (ACY),
- Bridgeport/Igor I. Sikorsky Memorial (BDR),
- Caldwell/Essex County (CDW),
- Westhampton Beach/ The Francis S. Gabreski (FOK),
- Islip Long Island MacArthur (ISP),
- Linden (LDJ),
- Morristown Municipal (MMU),
- Newburgh/Stewart International (SWF),
- New Haven/Tweed-New Haven (HVN),
- Northeast Philadelphia (PNE),
- Republic (FRG),
- Trenton/Mercer County (TTN),
- White Plains/Westchester County (HPN),

- Wilmington/New Castle County (ILG), and

- McGuire Air Force Base (WRI).

The five major airports and 16 satellite airports in the Study Area are depicted in Figure ES.1.

While there are many satellite airports physically located within the Study Area, they were not included in the operational modeling or noise analysis. The decision to include or exclude airports was based on the fact that the Airspace Redesign applies to IFR operations. Airports without a significant amount of IFR traffic were not modeled because there will be little or no change to their operations as a result of the Proposed Action. Additionally, aircraft (including helicopters) operating under visual flight rules (VFR) are not part of the airspace redesign because they are unaffected by the proposed alternatives. Further, VFR aircraft operating outside controlled airspace are not required to be in contact with air traffic control (ATC). Since these aircraft operate at the discretion of the pilot on the "see and be seen" principal and are not required to file flight plans, FAA has very limited information for these operations. The resulting list of airports to be modeled was reviewed and found to be consistent with the airports that may be impacted based on the Proposed Action.

ES.6 ENVIRONMENTAL CONSEQUENCES

The Proposed Airspace Redesign Project does not include construction of any infrastructure, and as such

is not expected to cause adverse environmental impacts to most resource categories relating to the physical environment. Thus, the following resource categories would not be affected by the Proposed Airspace Redesign Project:

- Coastal Resources,
- Construction Impacts,

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- Farmlands,
- Floodplains,
- Hazardous Materials, Pollution Prevention, and Solid Waste,
- Water Quality,
- Wetlands, and
- Wild and Scenic Rivers.

The following resource categories were also evaluated for potential impacts, but further analysis was not deemed necessary for the reasons stated:

• Air Quality - Since the issuance of the DEIS, the FAA was advised by the EPA that it should not use the Preamble to the final rule for Determining Conformity of General Federal Actions to State and Federal Implementation Plans to determine de minimis actions for "air traffic control activities and adopting approach, departure, and en route procedures for air operations." In the past, the EPA has agreed that airspace redesign produced de minimis emission changes. Recently, the FAA has determined that it can not rely on the preamble and on February 12, 2007 issued a Draft Federal Notice Federal Presumed to Conform Actions Under General Conformity [Federal Register 6: February 12, 2007 (Volume 72, Number 28)] which formally defines these types [6] of actions above 1,500 feet above ground level (AGL) as de minimis. FAA received comments on the notice for 45 days and is in the process of developing the Final Notice. It is expected that air traffic operations will be included in the Final Notice. To reinforce the FAA presumption that the Proposed Action would be de minimis a fuel burn analysis was completed for the FAA's Preferred Alternative with and without mitigation, both versions

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[6] The US National Archives' website describes the Federal Register as follows; "Published every Federal working day, the Federal Register is the official gazette of the United States Government. It provides legal notice of administrative rules and notices and Presidential documents in a comprehensive uniform manner." See http://www.archives.gov/federal-register/ the-federal-register/.

of the Preferred Alternative reduced fuel burn when compared to the Future No Action Alternative. Additionally, the Airspace Redesign will not increase traffic over the Future No Action. Lastly the project will not cause a new violation, worsen an existing violation, or delay meeting the National Ambient Air Quality Standards.

◦ Light Emissions and Visual Impacts – Radar data indicates that areas where lower altitude airspace changes would take place are likely already exposed to aircraft lights and aircraft flights; therefore, no light emissions or visual impacts would be expected in these areas. In addition, because of the unique cultural qualities of Tribal Lands, additional analysis of potential visual impacts on Native American Tribes located in the Study Area was completed. It was determined that Tribal Lands were either subject to minor changes in aircraft routes or were already exposed to regular overflights. Therefore, the implementation of any of the Airspace Redesign alternatives would not result in significant visual impacts to Tribal lands within the Study Area.

◦ Natural Resources and Energy Supply – The proposed changes in air traffic procedures are intended to improve air

[1-1]

New York/New Jersey/Philadelphia Metropolitan Area Airspace Redesign EIS

Chapter One
PROJECT BACKGROUND AND PURPOSE AND NEED FOR THE ACTION

This Chapter provides background on the Federal Aviation Administration's (FAA) proposal to consider airspace changes in the New York/New Jersey/Philadelphia (NY/NJ/PHL) Metropolitan Area, along with the purpose and need for airspace redesign in this area.

1.1 INTRODUCTION

The Federal Aviation Act of 1958, codified as 49 U.S.C. Sections 40101 et seq., delegates various responsibilities to the FAA, including controlling the use of the navigable airspace and regulating civil and military operations in that airspace in the interest of maintaining the safety and efficiency of these operations.[1] In its effort to continually maintain safety and increase efficiency of the airspace, the FAA is proposing to redesign the airspace by making modifications to aircraft routes and air traffic control (ATC) procedures used in the NY/NJ/PHL Metropolitan Area. This redesign was conceived as a

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[1] Title 49 United States Code (USC) Section 40101(d)(4).

system for more efficiently directing Instrument Flight Rule (IFR) aircraft to and from major airports in the NY/NJ/PHL Metropolitan Area, which include John F. Kennedy International Airport (JFK) and LaGuardia Airport (LGA) in New York, Newark Liberty International Airport (EWR) and Teterboro Airport (TEB) in New Jersey, and Philadelphia International Airport (PHL) in Pennsylvania. In total, 21 airports are included in the Airspace Redesign Project.

The purpose of this Environmental Impact Statement (EIS) is to evaluate the environmental effects of the NY/NJ/PHL Metropolitan Area Airspace Redesign (Airspace Redesign) in accordance with the National Environmental Policy Act of 1969 (NEPA).[2] This EIS was officially initiated when the FAA issued a Notice of Intent (NOI) to prepare an EIS on January 22, 2001. The format and subject matter in this environmental study conform to the requirements and standards of the Council on Environmental Quality (CEQ) regulations[3] and FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*.

- Chapter One defines the proposed action and the purpose and need for the Airspace Redesign.

- Chapter Two evaluates alternatives to determine whether they are reasonable and meet the purpose and need of the project. Airspace redesign alternatives were developed

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[2] 42 U.S.C. § 4321 et. seq.

[3] 40 CFR Part 1500.

for analysis in accordance with NEPA, including the required No-Action Alternative. This chapter also briefly describes FAA consideration of integrating the New York Terminal Radar Approach Control (TRACON) and the Air Route Traffic Contrc! Center (ARTCC) into a common facility, independent of Airspace Redesign. Any required environmental analysis for that effort will be handled

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Table 3.20
CO Maintenance Areas in the Study Area

State	County/Cities
Connecticut	Fairfield County Hartford County Litchfield County Middlesex County New Haven County Tolland County
New Jersey	Atlantic County (The city of Atlantic City) Bergen County Burlington County (The city of Burlington) Camden County Essex County Hudson County Mercer County (City of Trenton)

	Middlesex County (City of Perth Amboy) Monmouth County (Borough of Freehold) Morris County (City of Morristown) Ocean County (City of Toms River) Passaic County Salem County Somerset County (Borough of Somerville) Union County
New York	Bronx County Kings County Nassau County New York County Queens County Richmond County Westchester County
Pennsylvania	Philadelphia County

Source: US EPA Office of Air Quality Planning & Standards. Pollutant status as of April 11, 2005.

Ozone is formed by a complex series of chemical reactions between VOCs and oxides of nitrogen in the presence of sunlight during hot, stagnant summer days.

The primary manmade sources of VOCs and nitrogen oxides (NO_x) are industrial and automobile emissions. Other sources of VOCs include aircraft, airport ground support equipment, lawn and garden equipment, and

consumer products such as paints, insecticides, and cleaners. Ozone concentrations can reach unhealthy levels when the weather is hot and sunny with little or no wind. High ozone levels usually occur between 1 p.m. and 7 p.m. from May through September. High concentrations of ozone may cause inflammation and irritation of the respiratory tract, particularly during heavy physical activity. Not only are there negative health effects for humans, but there is clear evidence that ground-level O_3 harms vegetation and forests.
In April 2004, the EPA issued the final designations for areas across the country for the eight-hour ozone standard and 8-hour ozone. Designations and classifications took effect on June 15, 2004. Basic nonattainment areas (i.e., Subpart 1) are areas in attainment for 8-hour

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ozone. Areas categorized as basic nonattainment will have to comply with the more general non-attainment requirements of the CAA (i.e., attainment deadlines five to 10 years after designation). Subpart 2 non-attainment areas are areas in nonattainment for one-hour ozone. Depending on the severity of their eight-hour ozone concentrations, Subpart 2 areas have attainment dates between 2007 and 2021. Marginal non-attainment areas must achieve attainment status within three years of designation. Moderate non-attainment areas must achieve attainment status within six years. The EPA issued the first phase of the final implementation rule which addresses two key implementation issues: 1) classifications for the eight-hour standard and 2) transitioning from the

one-hour to the eight-hour standard. This action outlines the first steps areas will have to take to maintain or improve their air quality. The EPA issued the second phase of the final eighthour ozone implementation rule in November 2005. This phase addressed the planning and control obligations that will apply for purposes of implementing the 8Hour ozone NAAQS. On December 22, 2006, the U.S. Court of Appeals for the District of Columbia Circuit upheld certain aspects and rejected certain aspects of EPA's framework for implementing the 8-Hour ozone National Ambient Air Quality Standard (NAAQS). The Phase 1 Ozone Implementation Rule was vacated and remanded to EPA for further proceedings. In March 22, 2007, EPA filed a petition for rehearing. The EPA is however encouraging states to continue developing state implementation plans for 8-hour ozone requirements because the Court felt that EPA was not meeting the requirements of the CAA EPA proposed in June 2007 to strengthen the air quality standards for ground-level ozone. The Agency currently expects designations based on 2007-2009 air quality data to take effect in 2010.

There are still 14 areas listed in 40 CFR Part 81 Subpart C as participating in an Early Action Compact and designated nonattainment with a deferred effective date.

The one-hour standard will be revoked for these areas one year after the effective date of their designation as attainment or nonattainment for the 8-hour ozone standard. By April 2008, these areas will be designated attainment if they meet all their EAC

requirements and have clean 8-hour ozone data by December 31, 2007. They will be designated non-attainment if they do not meet all their EAC requirements, including attainment of the 8-hour ozone standard by December 31, 2007.[60] The Study Area does not include any of the 14 areas designated non-attainment for 1-hour ozone.

There are several areas located within the Study Area that have been classified by the EPA as being in non-attainment for the eight-hour ozone standards.**Table 3.21** identifies the eight-hour ozone nonattainment areas. **Figure 3.23** depicts the locations within the Study Area that are in non-attainment for eight-hour ozone.

3.9.4 Sulfur Dioxide (SO_2)

Sulfur dioxide results largely from stationary sources such as coal and oil combustion, steel mills, refineries, and pulp and paper mills. When a sulfur bearing fuel is combusted, the sulfur is oxidized to form SO_2. Natural sources of SO_2 include releases from volcanoes, oceans, biological decay, and forest fires. The most important man-made sources of SO_2 are fossil fuel combustion, smelting, and manufacturing of

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[60]USEPA Green Book, <http://www.epa.gov/oar/oaqps/greenbk/>.

[3-52]

sulfuric acid, conversion of wood pulp to paper, incineration of refuse, and production of elemental sulfur. High concentrations of SO_2 affect breathing and may aggravate existing respiratory and cardiovascular disease. Sulfur dioxide is also a primary contributor to acid rain, which causes acidification of lakes and streams. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. Warren County, New Jersey is the only county located within the Study Area that has been classified by the EPA as being in non-attainment for both the primary and secondary SO_2 standards. Figure 3.22 shows this SO_2 non-attainment area.

Table 3.21
Ozone Non-Attainment Areas
in the Study Area

State/ District	County/Cities	Classif-ication Standard
Connecticut	Fairfield County	Moderate
	Hartford County	Moderate
	Litchfield County	Moderate
	Middlesex County	Moderate
	New Haven County	Moderate
	New London County	Moderate
	Tolland County	Moderate
Delaware	New Castle County	Moderate

New Jersey	Atlantic County	Moderate
	Bergen County	Moderate
	Burlington County	Moderate
	Camden County	Moderate
	Cape May County	Moderate
	Cumberland County	Moderate
	Essex County	Moderate
	Gloucester County	Moderate
	Hudson County	Moderate
	Hunterdon County	Moderate
	Mercer County	Moderate
	Middlesex County	Moderate
	Monmouth County	Moderate
	Morris County	Moderate
	Ocean County	Moderate
	Passaic County	Moderate
	Salem County	Moderate
	Somerset County	Moderate
	Sussex County	Moderate
	Union County	Moderate
	Warren County	Moderate
New York	Albany County	Basic
	Bronx County	Moderate
	Dutchess County	Moderate
	Greene County	Basic
	Kings County	Moderate
	Nassau County	Moderate
	New York County	Moderate
	Orange County	Moderate
	Putnam County	Moderate
	Queens County	Moderate
	Richmond County	Moderate

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	Rockland County Schoharie County Suffolk County Westchester County	Moderate Basic Moderate Moderate
Pennsylvania	Berks County Bucks County Carbon County Chester County Delaware County Lackawanna County Lancaster County Lehigh County Monroe County Montgomery County Northampton County Philadelphia County	Basic Moderate Basic Moderate Moderate Basic Marginal Basic Basic Moderate Basic Moderate

Source: US EPA Office of Air Quality Planning & Standards. Pollutant status as of April 11, 2005.

3.9.5 Lead

The majority of atmospheric lead comes from lead gasoline additives, non-ferrous smelters, and battery plants. Exposure to lead can cause seizures and contribute to mental retardation and behavioral disorders. Due to several EPA pollution control programs, lead levels in humans have dramatically declined in recent decades. Beginning in the 1970s,

the EPA lowered the amount of lead allowed in gasoline and facilitated the switch to unleaded gasoline as the primary fuel for highway vehicles. This switch virtually eliminated lead violations in urban areas with no point sources.[61] Consequently, no counties in the Study Area are in non-attainment or maintenance areas for lead.

3.9.6 Particulate Matter (PM)

Air pollutants considered as PM include dust, dirt, soot, smoke, and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activities, fires, and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO_2 and VOCs are also considered particulate matter. Based on studies of human populations exposed to high concentrations of particles and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogens, and premature death. Particulate matter also damages materials and is a major cause of visibility impairment.

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[61] EPA Air Quality Planning & Standards, Lead – How Lead Affects the Way We Live & Breathe, November 2000, available at <www.epa.gov/ air/urbanair/lead/index.html>.

Since July 1, 1987, the EPA has used the indicator PM_{10}, which includes only those particles with aerodynamic diameter smaller

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than 10 micrometers. These smaller particles are likely responsible for most of the adverse health effects of particulate matter because of their ability to reach the thoracic or lower regions of the respiratory tract.

The PM spectrum includes both coarse and fine particles. While the main distinction between coarse and fine particles is the process by which they are produced, EPA and epidemiologists who study the health effects of particulate pollution identify coarse and fine particles through rough approximations of those particles' diameters. Coarse particles, which become airborne usually from the crushing and grinding of solids, generally have diameters between two and a half and 10 micrometers and can, thus, be identified by the indicator $PM_{10-2.5}$. Fine particles, indicated by $PM_{2.5}$, come mainly from combustion of gases and generally have diameters of two and a half micrometers or less.

The EPA has developed $PM_{2.5}$ air quality standards. On July 17, 2006, EPA published de minimis levels of 100 tons per year for all PM2.5 maintenance or non-attainment areas.

Under the current PM_{10} standards, New Haven County, Connecticut and New York County, New York

are the only two counties designated non-attainment. $PM_{2.5}$ nonattainment areas were identified in December 2004 and modified in April 2005. **Table 3.22** identifies the PM_{10} and $PM_{2.5}$ non-attainment areas within the Study Area. **Figure 3.24** depicts the locations within the Study Area that are designated nonattainment for PM_{10} and $PM_{2.5}$.

3.10 ENERGY SUPPLY AND NATURAL RESOURCES

According to FAA Order 1050.1E, an EIS should ensure that energy use, its conservation, and energy efficient alternatives are considered along with other pertinent factors in planning, detailed design, and in the decision making process leading to an action. In addition, the potential to change demands on stationary facilities, local energy supplies, and natural resources, other than fuel, is also considered. The proposed changes in air traffic procedures are intended to improve air traffic flow, mitigate delays, and enhance the safe operation of aircraft within the airspace structure. As stated previously in Chapter One *Purpose and Need*, aircraft operational activity is expected to experience normal growth with or without the proposed air traffic procedural changes. Furthermore, none of the alternatives considered would result in the construction of facilities that would potentially impact known sources of minerals or energy.

The potential impacts to energy supply and natural resources as a result of the Proposed Action are discussed in Chapter Four, *Environmental Consequences*.

3.11 LIGHT EMISSIONS AND VISUAL IMPACTS

According to FAA Order 1050.1E, a description of potential impacts due to light emissions and visual impacts associated with a Federal action may be required.

3.11.1 Light Emissions

As stated in FAA Order 5050.4A, "Only in unusual circumstances, as, for example, when high intensity strobe lights would shine directly into individual's homes, would the impact of light emissions be considered sufficient to warrant a special study or a more detailed examination of alternatives in an EIS."

[3-55]

Table 3.22
PM_{10} and $PM_{2.5}$ Non-Attainment Areas

Pollutant	State/ District	County/ Cities	Classification Standard
PM_{10}	Connecticut	New Haven County	Moderate
	New York	New York County	Moderate
$PM_{2.5}$	Connecticut	Fairfield County New Haven County	Non-Attainment Non-Attainment
	Delaware	New Castle County	Non-Attainment
	New Jersey	Bergen County Essex County Hudson County Mercer County Middlesex County Monmouth County	Non-Attainment Non-Attainment Non-Attainment Non-Attainment Non-Attainment Non-Attainment

		Morris County	Non-Attainment
		Passaic County	Non-Attainment
		Somerset County	Non-Attainment
		Union County	Non-Attainment
		Burlington County	Non-Attainment
		Camden County	Non-Attainment
		Gloucester County	Non-Attainment
	New York	Bronx County	Non-Attainment
		Kings County	Non-Attainment
		Nassau County	Non-Attainment
		New York County	Non-Attainment
		Orange County	Non-Attainment
		Queens County	Non-Attainment
		Richmond County	Non-Attainment
		Rockland County	Non-Attainment
		Suffolk County	Non-Attainment
		Westchester	Non-Attain

		County	ment
	Pennsylvania	Lancaster County	Non-Attainment
		Bucks County	Non-Attainment
		Chester County	Non-Attainment
		Delaware County	Non-Attainment
		Montgomery County	Non-Attainment
		Philadelphia County	Non-Attainment
		Berks County	Non-Attainment

Source: US EPA Office of Air Quality Planning & Standards. Pollutant status as of April 11, 2005.

APPENDIX N

58 Fed. Reg. 63,229 (1993)

*63229 The de minimis level for lead is 25 tons/year in the final rule. The definition of major stationary source for lead is 100 tons/year. Relatively small increases in lead emissions, however (compared to other criteria pollutants) may threaten the lead standard; also, the level proposed for lead (0.6 tons/year) was proportionately much smaller than 100 tons/year. Therefore, a 100 ton/year level appears unprotective of the conformity requirement. The 25 ton/year value is based on the source size in 40 CFR part 51 that triggers an attainment demonstration requiring dispersion modeling. The de minimis levels proposed were generally those used to define when modifications to existing stationary sources require preconstruction review. It was pointed out to EPA in comments on the proposal that these thresholds would result in the need to perform a conformity analysis and determination for projects that constituted a "modification" to an existing source but not a "major" source in some cases. The EPA agrees that conformity applies more appropriately to "major" sources and after careful consideration has decided to revise its original proposal in the final rule to use the emissions levels that define a major source, except as described above for lead. The definition of a major source under

the amended Act is explained in more detail in the April 16, 1992 Federal Register in the EPA's General Preamble to Title I (57 FR 13498). Section 51.853(b)(3) of the rule has also been revised to remove the provision that would automatically lower the de minimis levels to that established for stationary sources by the local air quality agency. In keeping with its conclusion that only major sources should be subject to conformity review, EPA agrees that a zero emissions threshold, as established by some local agencies, should not be required by this rule.

Further, the EPA believes that Federal actions which are de minimis should not be required by this rule to make an applicability analysis. A different interpretation could result in an extremely wasteful process which generates vast numbers of useless conformity statements. Paragraphs (c) (1) and (2) of § 51.853 are added to the final rule to provide that de minimis actions are exempt from the requirements of this rule. Therefore, it is not necessary for a Federal agency to document emissions levels for a de minimis action. Actions that a Federal agency recognizes as clearly de minimis, such as actions that do not cause an increase in emissions, do not require a positive conformity determination. Instead, such actions are exempt from the rule as provided in § 51.853(c)(1).

In order to illustrate and clarify that the de minimis levels exempt certain types of Federal actions, several de minimis exemptions are listed in § 51.853(c)(2). There are too many Federal actions that are de minimis to completely list in either the rule or this preamble. In addition to the list in the rule, the EPA

believes that the following actions are illustrative of de minimis actions:

(1) Routine monitoring and/or sampling of air, water, soils, effluent, etc.
(2) Air traffic control activities and adopting approach, departure and enroute procedures for air operations.
(3) Acquisition of properties through foreclosure and similar means.
(4) Assistance or subsidy for social services such as health care, day care, or nutrition services, as well as payments under public assistance.
(5) Deposit or account insurance for customers of financial institutions and flood insurance.
(6) Routine installation and operation of aviation and maritime navigation aids.
(7) Participating in "air shows" and "fly-overs" by military aircraft.
(8) Educational and informational programs and activities.
(9) Advisory and consultative activities, such as legal counseling and representation.
(10) Construction of hiking trails.
(11) Regeneration of an area to native tree species
(12) Timber stand and/or habitat improvement activities which do not include the use of herbicides, prescribed fire or do not require more than one mile of low standard road construction.

As noted above, the provisions in §51.853(c) (or in §51.853(d)-(e)) are not rebuttable presumptions and not subject to documentation since they are exemptions to the rule. The EPA believes that the nature of the exemptions listed in the rule, taken in

context of the definitions of a Federal action and indirect emissions, which are limited to those actions over which the Federal agency has a continuing program responsibility and can practicably control, renders these actions truly de minimis and therefore exempt from conformity requirements.

The exemptions listed in §51.853(d) are for actions that may be above the de minimis levels listed in §51.853(b). The rationale for the exemptions listed in §51.853(d)(1) for new source review (NSR) and prevention of significant deterioration (PSD) and §51.853(d)(2) for emergencies is explained below. The activities listed in §51.853(d) (3) and (4) are related to air quality and necessary environmental regulations and, therefore, EPA believes they should be exempt. The exemption for certain CERCLA activities is discussed in the following section. In contrast, the provisions of §51.853(f) are presumptions of conformity that must be supported by documentation as provided in §51.853, paragraphs (g) and (h) (which establish criteria and procedures for Federal agencies to develop additional categories of actions which would then be presumed to conform), and that they may be rebutted as provided in §51.853(j).

J. Applicability--Exemptions and Presumptions of Conformity

1. Proposal

In addition to Federal actions with de minimis emission levels that do not require conformity determinations, EPA identified several types of

Federal actions where EPA believed that conformity of such activities or a portion of such activities can be presumed. The NPR provided several cases where conformity is presumed (§51.853 (c) and (d)), including the following:

(1) Actions subject to preconstruction NSR or PSD programs under the Act;
(2) Wastewater treatment works projects funded by the State Revolving Fund (SRF) under the Clean Water Act;
(3) Superfund activities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA);
(4) Federal land transfers; and
(5) National emergencies.

The proposal indicated that Federal actions identified under §51.853, paragraph (c), are presumed to conform because the required air quality analyses that would be conducted under a conformity review must be completed to comply with other statutory requirements. That is, air quality analyses are required in the NSR programs under the Act and the applicable or relevant and appropriate standards process under the CERCLA. The EPA believes these analyses are adequate for purposes of conformity.

2. Comment

A number of commenters supported these provisions in the proposal, while others objected to them. Some commenters felt that the following actions should be subject to conformity review or that the proposed

presumptions of conformity were too vague and need greater clarification: ***63230**

APPENDIX O

72 Fed. Reg. 6645, 6654 (2007)

*6645 The airport project survey data and other agency experience in implementing similar actions taken over recent years provide the fundamental basis for all of the presumed to conform classifications. The FAA conducted additional quantitative analyses for specific project areas, as practicable. These analyses are summarized in Section III, and include the following: Pavement markings; terminal upgrades; commercial vehicle staging areas; non-runway paving; heating, ventilation, and air conditioning (HVAC) systems; and low-emission technology and alternative fuel vehicles.

Based on the survey of airport projects, the additional evaluations, and quantitative analyses, only those project categories that were proven to be reliably and consistently de minimis were classified as presumed to conform. In general, FAA presumed to conform actions involve maintenance, navigation, construction, safety, security activities, and new technology and vehicle systems that do not modify or increase airport capacity or change the operational environment of the airport in such a way as to increase air emissions above de minimis thresholds.

Presented below are the airport project descriptions and justifications for FAA actions that are presumed to conform. There are fifteen project categories, which are discussed in the following order:

1. Pavement Markings.
2. Pavement Monitoring Systems.
3. Non-Runway Pavement Work.
4. Aircraft Gate Areas on Airside.
5. Lighting Systems.
6. Terminal and Concourse Upgrades.
7. New HVAC Systems, Upgrades, and Expansions.
8. Airport Security.
9. Airport Safety.
10. Airport Maintenance Facilities.
11. Airport Signage.
12. Commercial Vehicle Staging Areas.
13. Low-Emission Technology and Alternative Fuel Vehicles.
14. Air Traffic Control Activities and Adopting Approach, Departure and Enroute Procedures for Air Operations.
15. Routine Installation and Operation of Aviation Navigation Aids.

1. Pavement Markings

Airport sponsors apply paint on paved surfaces, such as runways, taxiways, apron areas, cargo areas, and parking lots to ensure the safe operation of aircraft during approach and landing and to provide safe direction for surface vehicles. Most pavement marking projects are considered routine maintenance activities,

qualifying as exempt from the Rule (see Section II, number 2 of this Notice). These actions are designed to restore and improve painted surfaces that have deteriorated due to time, use, and weather. Federal actions that alter airport use through new pavement markings are not routine maintenance but are presumed to conform if such actions do not increase airport capacity or introduce a larger class of aircraft at the airport. For example, new runway markings for improved flight procedures from visual flight rules (VFR) to instrument flight rules (IFR) are presumed to conform if normal traffic flow is maintained.

Pollutant emissions due to the paint application process are primarily composed of VOC from the paint, and NOX emitted from the trucks and application compressors required to prepare the surface and apply the paint. Emissions of both VOC and NOX are considered precursors to the development of ozone in the atmosphere. Therefore, emissions from the application of painted pavement markings pertain most importantly to ozone nonattainment and maintenance areas. A worst-case calculation of emissions was performed based on equipment and types of paint required to mark a Category III 13,000-foot runway with an instrument lighting system (ILS) to FAA specifications. The calculation of emissions included the removal of existing markings using water pressure through a compressor mounted on a diesel truck, a pavement sweeper truck to remove debris, the application of the paint using an air compressor mounted on a diesel truck, and a small hand sprayer for detailed markings, such as squared corners. A total of 2,492 gallons of paint (a

combination of white, yellow, and black) were applied to the representative runway at a rate of 115 square feet per gallon of paint. The trucks transporting the paint and compressors were assumed to be similar to a single axle, Class 7 diesel pickup truck.[25] The sweeper was assumed to be a regenerative diesel air power model, using a chassis engine and an auxiliary engine to power the brushes. Manufacturers' Material Safety Data Sheets were referenced for the VOC emissions factors for the three colors of latex paint. Emissions factors for the criteria and precursor pollutants were obtained from the EPA Nonroad Engine and Vehicle Emission Study-Report.[26] Load factors and horsepower ratings were obtained from the EPA Nonroad Engine and Vehicle Emission Study-Report and Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling.[27]

The maximum volume of paint that could be applied without equaling or exceeding the de minimis thresholds for any nonattainment and maintenance

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[25] The Gross Vehicle Weight Rating (GVWR) system defines a Class 7 diesel truck as one that can carry 26,001 to 33,000 pounds of weight on two axles.

[26] EPA Report 460/3-91-02, November 1991, Nonroad Engine and Vehicle Emission Study--Report.

[27] EPA Report NR-005A, December 9, 1997, revised June 15, 1998, Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling.

classification was calculated.[28] For instance, an airport located within an extreme nonattainment area for ozone is limited to net project emissions of 10 tons of VOC per year. This translates into an annual application of 21,890 gallons of paint, which also causes 0.21 tons[29] of NOX emissions. For example, this volume of paint would mark eight Category III 13,000-foot ILS runways. A volume of paint on the order of one million gallons is required to cause emissions of NOX to equal 10 tons per year. Likewise, a volume of paint on the order of five million to 176 million gallons is required in order to be sufficient to exceed the de minimis thresholds for CO, SO2, or PM10 . Therefore, VOCs are the limiting pollutant[30] for the application of paint at airports and emissions of NOX, CO, SO2, and PM10 are considerably less. Table III-1 provides the gallon application limits, which include the use of construction equipment for pavement markings in nonattainment and maintenance areas.

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*6654 new low-emission technology, these activities are presumed to conform.

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[28] Calculations of maximum paint volume include consideration of construction equipment.

[29] Short tons, where one ton equals 2,000 lbs.

[30] The limiting pollutant is defined as the criteria pollutant that first exceeds de minimis levels for a given project. *6646

Activities that are presumed to conform include the replacement, substitution, or conversion of conventional fuel vehicles (gasoline, diesel) to vehicles using alternative or clean conventional fuel technology. Qualified activities also encompass airport low-emission infrastructure improvements and the use of refueling or recharging stations needed to service airport low-emission vehicles.

All low-emission activities funded through the FAA Voluntary Airport Low Emission Program (VALE) or that are required as part of environmental mitigation are presumed to conform.[50] The VALE program requires that vehicles purchased under the program meet specific low-emission standards and that these vehicles and other program equipment remain at the airport for their useful life.

14. Air Traffic Control Activities and Adopting Approach, Departure and Enroute Procedures for Air Operations

The preamble to the General Conformity Rule[51] states that:

"In order to illustrate and clarify that the de minimis levels exempt certain types of Federal actions, several de minimis exemptions are listed in § 51.853(c)(2). There are too many Federal actions that are de

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[50] FAA Order 5100.38C, Airport Improvement Program Handbook, June 2005, §§ 580, 585.

[51] 58 FR 63229 (Nov. 30, 1993).

minimis to completely list in either the rule or this preamble."

As an illustration of exempt actions, EPA states in the preamble that "Air traffic control activities and adopting approach, departure and enroute procedures for air operations" are among other actions that are de minimis (preamble, p. 63229, I(2)) and should be exempt from the Rule. The FAA concurs with the EPA determination that air traffic control activities are de minimis. However, because these activities are cited in the preamble but not in the Rule itself, the FAA believes that it is prudent to document these activities as presumed to conform.

Air traffic control activities are defined as actions that promote the safe, orderly, and expeditious flow of aircraft traffic, including airport, approach, departure, and enroute air traffic control.[52] Airspace and air traffic actions (e.g., changes in routes, flight patterns, and arrival and departure procedures) are implemented to enhance safety and increase the efficient use of airspace by reducing congestion, balancing controller workload, and improving coordination between controllers handling existing air traffic, among other things. Although increased efficiency and delay reduction would allow traffic volume to increase, in FAA's experience such actions do not lead to increased annual aircraft operations or changes to the operational level of airports in the vicinity of the air traffic changes. In today's

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[52] 14 CFR Part 170, § 170.3.

deregulated environment, market forces determine where airlines fly and how often.

Emissions released into the atmosphere above the inversion base for pollutant containment, commonly referred to as the "mixing height," (generally 3,000 ft. above ground level) do not have an effect on pollution concentrations at ground level.[53,54] Therefore, air traffic control actions above the mixing height are presumed to conform.

In addition, the results of FAA research on mixing heights indicated that changes in air traffic procedures above 1,500 ft. AGL and below the mixing height would have little if any effect on emissions and ground concentrations.[55] Such actions in the vicinity of the airport are tightly constrained by runway alignment, safety, aircraft performance, weather conditions, terrain, and vertical obstructions.[56] Accordingly, air traffic actions below the mixing height are also

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[53] EPA Report, Procedures for Emission Inventory Preparation, Volume IV: Mobile Sources [420-R-92-009], section 5.2.2., 1992.

[54] Realistic Mixing Depths for Above Ground Aircraft Emissions, Journal of the Air Pollution Control Association, Vol. 25, No. 10, Howard M. Segal, Boeing, 1975.

[55] Report on "Consideration of Air Quality Impacts by Airplane Operations At or Above 3,000 feet AGL," FAA-AEE-00-01, September 2000, p. 5.

[56] FAA Advisory Circulars No. 25-13 and No. 91-53A describe requirements that must be met when using reduced power for takeoff.

presumed to conform when modifications to routes and procedures are designed to increase safety, enhance fuel efficiency, or reduce community noise impacts by means of engine thrust reductions. Other air traffic procedures and system enhancements that are presumed to conform include actions that have no effect on air emissions or result in air quality improvements, such as gate hold procedures which reduce queuing, idling, and flight delays.

15. Routine Installation and Operation of Airport Navigation Aids

Aviation navigation aids represent the facilities and equipment used for communications, navigation, and surveillance (CNS) systems.[57] The use and maintenance of CNS systems is essential to safe air commerce and national security.[58] Airports are required to establish adequate maintenance systems for navigational aid facilities to the level of performance achieved at original commission.[59]

Similar to the previous presumed to conform action for air traffic control activities, EPA states in the preamble that "routine installation and operation of aviation (and maritime) navigation aids" are below de minimis and should be considered exempt actions.[60]

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[57] 14 CFR 171.1-171.51.

[58] 14 CFR 169.1(a)

[59] 14 CFR Part 171.

[60] 58 FR 63229, I(6) (Nov. 30, 1993).

The FAA concurs with EPA in this determination. However, because the stated activities are cited in the preamble but not in the Rule itself, the FAA believes that it is prudent to document these activities as presumed to conform.

The routine installation, in-kind replacement, and maintenance of navigational aids (e.g., Air Traffic Control Towers (ATCT), Instrument Landing Systems (ILS), Approach Light Systems (ALS)) are presumed to conform because these activities will not generate emissions that exceed de minimis levels. Moreover, emissions generated by construction equipment and maintenance vehicles used to transport workers and equipment to CNS system sites are negligible considering the temporary nature of construction and maintenance activities and the limited number of vehicles involved.

If the installation of new or upgraded navigational aids for improved safety and efficiency also increases the capacity of the airport or changes the operational environment of the airport, these CNS activities are not presumed to conform.[61]

Also presumed to conform are CNS emergency or standby generators powered by natural gas or LPG. These generators provide electric power in case of primary power failure and are operated intermittently, with an estimated total time of operation of less than 100 hours per year. Because of the infrequent use and

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[61] Consistent with FAA Order 1050.1E, Section 401 "Actions Normally Requiring an Environmental Assessment"

small size (135 kilowatts or less) of the engine generators and the use of clean-burning fuels, the engine generators produce negligible air emissions.

IV. How To Apply Presumed To Conform Actions

The qualifying project categories discussed in the preceding section may be referred to as the FAA "presumed to *6655

APPENDIX P

72 Fed. Reg. 41,578 (2007)

*41578 airport low-emission programs over the past several years, which provide extensive data and documentation to verify the emission reduction benefits of new low-emission technology, these activities are presumed to conform.

Activities that are presumed to conform include the replacement, substitution, or conversion of conventional fuel vehicles (gasoline, diesel) to vehicles using alternative or clean conventional fuel technology. Qualified activities also encompass airport low-emission infrastructure improvements and the use of refueling or recharging stations needed to service airport low-emission vehicles.

All low-emission activities funded through the FAA Voluntary Airport Low Emission Program (VALE) or that are required as part of environmental mitigation are presumed to conform.[47] The VALE program requires that vehicles purchased under the program meet specific low-emission standards and that these

[47] FAA Order 5100.38C, Airport Improvement Program Handbook, June 2005, §§ 580, 585.

vehicles and other program equipment remain at the airport for their useful life.

14. Air Traffic Control Activities and Adopting Approach, Departure and Enroute Procedures for Air Operations

The preamble to the General Conformity Rule[48] states that:

"In order to illustrate and clarify that the de minimis levels exempt certain types of Federal actions, several de minimis exemptions are listed in 51.853(c)(2). There are too many Federal actions that are de minimis to completely list in either the rule or this preamble." As an illustration of exempt actions, EPA states in the preamble that "Air traffic control activities and adopting approach, departure and enroute procedures for air operations" are among other actions that are de minimis (preamble, p. 63229, I(2)) and should be exempt from the Rule. Because air traffic control activities are cited in the preamble but not in the Rule itself, the FAA believes that it is prudent to document these activities as presumed to conform.

Air traffic control activities are defined as actions that promote the safe, orderly, and expeditious flow of aircraft traffic, including airport, approach, departure, and enroute air traffic control. Airspace and air traffic actions (e.g., changes in routes, flight patterns, and

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[48] 58 Fed. Reg. 63229 (Nov. 30, 1993).

arrival and departure procedures) are implemented to enhance safety and increase the efficient use of airspace by reducing congestion, balancing controller workload, and improving coordination between controllers handling existing air traffic, among other things.

Project-related aircraft emissions released into the atmosphere above the inversion base for pollutant containment, commonly referred to as the "mixing height," (generally 3,000 ft. above ground level) do not have an effect on pollution concentrations at ground level.[49,50] Therefore, air traffic control actions above the mixing height are presumed to conform.

In addition, the results of FAA research on mixing heights indicate that changes in air traffic procedures above 1,500 ft. AGL and below the mixing height would have little if any effect on emissions and ground concentrations.[51] Such actions in the vicinity of the airport are tightly constrained by runway alignment, safety, aircraft performance, weather conditions,

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[49] EPA Report, Procedures for Emission Inventory Preparation, Volume IV: Mobile Sources [420R-92-009], section 5.2.2., 1992.

[50] Realistic Mixing Depths for Above Ground Aircraft Emissions, Journal of the Air Pollution Control Association, Vol. 25, No. 10, Howard M. Segal, Boeing, 1975.

[51] Report on "Consideration of Air Quality Impacts by Airplane Operations At or Above 3,000 feet AGL," FAA-AEE-00-01, September 2000, p. 5.

terrain, and vertical obstructions.[52] Accordingly, air traffic actions below the mixing height are also presumed to conform when modifications to routes and procedures are designed to enhance operational efficiency (i.e., to reduce delay), increase fuel efficiency, or reduce community noise impacts by means of engine thrust reductions. Other air traffic procedures and system enhancements that are presumed to conform include actions that have no effect on air emissions or result in air quality improvements, such as gate hold procedures which reduce queuing, idling, and flight delays.

In FAA's experience, airport capacity improvements result from market forces in today's deregulated environment that determine where airlines fly and how often. These forces lead, for example, to airport planning and development of new runway or terminal projects, which are large actions that are not presumed to conform and must be evaluated further. Limited refinements to terminal air traffic procedures below the mixing height typically reduce local emissions as a result of improved efficiencies, reduced ground delays, and noise mitigation.

15. Routine Installation and Operation of Airport Navigation Aids

Aviation navigation aids represent the facilities and equipment used for communications, navigation, and

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[52] FAA Advisory Circulars No. 25-13 and No. 91-53A describe requirements that must be met when using reduced power for takeoff.

surveillance (CNS) systems.[53] The use and maintenance of CNS systems is essential to safe air commerce and national security.[54] Airports are required to establish adequate maintenance systems for navigational aid facilities to the level of performance achieved at original commission.[55]

Similar to the previous presumed to conform action for air traffic control activities, EPA states in the preamble that "routine installation and operation of aviation (and maritime) navigation aids" are below de minimis and should be considered exempt actions.[56] Because these activities are cited in the preamble but not in the Rule itself, the FAA believes that it is prudent to document these activities as presumed to conform.

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[53] 14 CFR 171.1-171.51.

[54] 14 CFR 169.1(a)

[55] 14 CFR Part 171.

[56] 58 FR 63229, I(6) (Nov. 30, 1993).

maintenance activities and the limited number of vehicles involved.

If the installation of new or upgraded navigational aids for improved safety and efficiency also increases the capacity of the airport or changes the operational environment of the airport, these CNS activities are not presumed to conform.[57]

Also presumed to conform are CNS emergency or standby generators powered by natural gas or propane. These generators provide electric power in case of primary power failure and are operated intermittently, with an estimated total time of operation of less than 100 hours per year. Because of the infrequent use and small size (135 kilowatts or less) of the engine generators and the use of clean-burning *41579

[57] Consistent with FAA Order 1050.1E, Section 401 "Actions Normally Requiring an Environmental Assessment".

APPENDIX Q

Federal Aviation
Administration *Eastern Region*

Excerpts from
Pre-Scoping Summary Report

New York/New Jersey
Metropolitan Area
Airspace Redesign
Program

[1]

Workshop Summary

This report summarizes the results of the New York/New Jersey (NY/NJ) Metropolitan Area Airspace Redesign Pre-Scoping Public Workshops, referred to as the Airspace Redesign Workshops. The report describes the planning and scheduling that went into this series of workshops as well as the workshop format. The final section summarizes public comments from each workshop. The pre-scoping process was used to support all airspace redesign efforts and provide insight into the public's issues surrounding redesign changes. This report is intended to be used by both Environmental and Redesign staff during future changes in the airspace surrounding the metropolitan area.

1.1 Purpose and Need for Airspace Redesign Program

The purpose of the New York/New Jersey Airspace Redesign Project is to increase the efficiency of air traffic flows into and out of the metropolitan area including Philadelphia while maintaining or improving the level of safety and air traffic services that are currently in place.

The New York/New Jersey metropolitan area is one of the busiest regions for air travel in the country. Major airports in the area include John F. Kennedy, La Guardia, Newark, and Philadelphia and combined account for over $40 billion in economic input to the

study area. These airports accommodated approximately 99 million passengers last year.

The enormous flow of air traffic into the study area has created a system that is highly susceptible to delays. The Air Transportation Association has estimated that more than 308,000 flights were delayed last year at a cost of $4.1 billion.

Two major contributors to flight delays include weather and the dated 1960's terminal air traffic flow. In the last 30 years aircraft types, air traffic control systems, and airport usage have all changed dramatically. Additionally, the basic design of the airports was not intended to handle such large volumes of traffic.

In response to the airspace issue, the Federal Aviation Administration (FAA) is undertaking a complete redesign of the airspace in the metropolitan area. Some of the benefits of a major redesign include:

[2]

- ☐ Reduced delays at major airports
- ☐ Reduced pilot/controller workload
- ☐ Enhanced safety
  - ☐ Reduced adverse environmental impacts such as noise and air emissions
- ☐ Enhanced productivity

APPENDIX R

New York/New Jersey/Philadelphia Metropolitan Area Airspace Redesign Project

Excerpts from
SCOPING REPORT
Environmental Impact Statement
March 2002

Federal Aviation Administration
Eastern Region

[6]

Air Emissions

Many of the scoping comments listed air emissions from aircraft as a concern that should be addressed during the Airspace Redesign Project and EIS development. The majority of the comments concerning air emissions were generated from the following areas: northern New Jersey (including areas west of Newark airport and along the northern New Jersey shoreline), areas surrounding JFK airport in New York and areas surrounding both Wilmington (DE) and Philadelphia airports.

The health effects on humans resulting from exposure to aircraft emissions were the primary concerns addressed throughout the study area; asthma and cancer were listed as the major health concerns that the public would like to see analyzed in greater detail. A secondary concern dealt with dirt films and residue deposits on external house furniture and siding that residents associate with aircraft emissions. These concerns were reported mostly from residents living close to major airports in the study area. Some of the mitigating suggestions included limits on the volume of air traffic, pushing for tighter regulations of aircraft engine emission restrictions and redirecting air traffic over less populated areas.

EIS Analysis: It is neither within the FAA's regulatory authority nor expertise to carry out a health-effects type study of air quality in the study

area for this EIS. However, the required air quality analysis will be done.

APPENDIX S

Federal Aviation Administration

Excerpts from
2009-2013
FAA FLIGHT PLAN

[21]

Initiatives

- Capitalize on Spring/Summer Plan data developed in partnership with the air lines and other segments of aviation to improve traffic flow in bad weather.

- Develop flexible arrival/departure corridors.

- Identify and implement procedures and technology to improve the dissemination of weather information to pilots and controllers.

- Improve NAS logistics support pro grams and performance to ensure operational availability of NAS equipment and systems.

Strategy

Increase aviation capacity and reduce congestion in the 7 Metro areas and corridors that most affect total system delay. For FY 2 9 those area s arc San Francisco Los Angeles La s Vegas Chicago Charlotte New York and Philadelphia.

Initiatives

- As identified with industry stakeholders continue implementing operational initiatives at the New York Metropolitan airports.

- Increase airport capacity through the use of Traffic Management Advisor (TMA).

- Monitor and maintain scheduled progress for Environmental Impact Statements at Philadelphia and Southern Nevada (located within the 7 Metro areas).

- Implement Traffic Management Advisor/Time Based Metering at New York Kennedy and LaGuardia Airports.

- Conduct planning studies for capacity and congestion at San Francisco.

- Direct Airport Improvement Program funding to reduce capacity constraints and provide greater access to the 86 regional airports in the 7 Metro areas.

- Update our projections on which metropolitan areas will have the greatest impact on the total system for delays over the period of the Flight Plan.

- Redesign the airspace of the 7 Metro areas including the continued implementation of the New York/New Jersey Airspace Redesign Project.

- Expand use of time based metering at air traffic control centers.

- Track average flight times and surface times using the System Airport Efficiency Rate (SAER) and Terminal Arrival Efficiency Rate (TAER) between the 7 Metro airports.

OBJECTIVE 2
Increase reliability and on time performance of scheduled carriers.

Performance Target
- Achieve a NAS on time arrival rate of percent at the 35 OEP airports and maintain through FY 2013.

Strategy
Promote the use of automated systems that provide more accurate and timely information for all system users.

Initiatives
Improve on time performance and operator and passenger access to information by using Traffic Flow Management (TFM) Traffic Management Advisor (TMA) and Collaborative Air Traffic Management Technologies (CATMT) such as Airspace Flow Programs (AFP).